

THE MEDICAL AND SURGICAL REPORTER

No. 1807.

PHILADELPHIA, OCTOBER 17, 1891.

VOL. LXV.—No. 16.

CLINICAL LECTURE.

THE NATURE AND TREATMENT OF ORGANIC STRICTURE OF THE URETHRA IN THE MALE.*

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Gentlemen:—In the ensuing lectures I propose to present a summary of the treatment of organic stricture of the male urethra, as you have seen it practiced by me in this arena. In so doing, I shall confine myself to purely clinical considerations, and shall refrain from entering upon foreign theoretical discussion.

Organic stricture consists, as you know, in a deposit of lymph beneath and around the urethral mucous membrane. This takes place in the form of plates and encircling bands, of varying size, density, and resistance. Its exciting cause is pre-existing inflammation, generally gonorrhoeal, and violence or injury. The obstructions or strictures thus formed, by their gradual increase, firmness, and contraction, interfere with the flow of urine, and give rise to urethral and often vesical irritation. Strictures have been variously classified. We have *first*, the *linear*, *bridle*, *cord-like* or *thread-like* stricture; and then the *annular* stricture, more or less broad, varieties of the *ring-like* contraction, which surround the canal and are met with in the most perfect form in the spongy urethra; *secondly*, the *resilient* or *elastic* stricture, which, when dilated or stretched, evinces a constant and persistent tendency to contract; *thirdly*, the *irritable* stricture; this is characterized by marked sensitiveness, and

pain on the slightest manipulation, with a disposition to bleeding, inflammation, local, vesical, and often general irritation. This irritability may be met with in almost any form of stricture, and in any locality. It seems to depend rather upon an individual sensitiveness than on any special pathological formation. It largely influences the determination and results of treatment, and its existence or development must be carefully watched and respected.

Strictures of *large* and *small* calibre; these terms are of constant application, and are somewhat arbitrarily used. By a stricture of *large* calibre, is usually meant, one with a circumference of more than fifteen or sixteen millimetres, while one below that standard is described as a stricture of *small* calibre. As a rule, strictures of the anterior or pendulous urethra, especially when of long duration, and annular, are resistant to a far greater extent than those of other portions of the canal. In the opinion of Professor Longstreth this condition is due to the fact that the submucous connective tissue of the anterior urethra is more homogenous, and its fibres are more closely felted than in that of the posterior portion. It contains also more connective tissue and fewer glandular elements than the latter, or bulbo-membranous portion, in which the paucity of connective tissue and the preponderance of glandular elements favor a more frequent development of stricture, and at the same time renders it less resistant. Strictures may be *single* or *multiple*. A *tortuous* stricture is the result of two or more neighboring strictures, whose irregular openings and canals collectively form a distorted and twisted passage.

The symptoms of stricture, I need only refer to. Micturition is difficult, imperfect, painful, strained, and usually frequent. The stream is altered, being narrowed, flattened, forked, twisted, irregular, and intermittent, even to drops, with often, a gleet discharge from behind the stricture. There is impairment of propulsive force in the stream,

* First Lecture.—Two Clinical Lectures delivered at the Jefferson Medical College Hospital.

although this can usually be increased by straining, and there is a sense of imperfect voidance of urine, with dribbling, after voluntary urination is completed. Shooting pains in the loins, and limbs, and reflex and sexual disturbances are not infrequent. If severe and deep urethritis occur, more or less suppuration may result, with dilatation of the urethra behind the seat of stricture, rupture, extravasation of urine, abscess and fistula. In other cases, cystitis may follow, with involvement of the ureters and kidneys, and disorganization of the latter.

Stricture most commonly follows gonorrhoea, although it may result from simple urethritis, from masturbation, and perhaps from prolonged and inordinate or ungratified venereal excitement. It is also caused by the application of caustic and irritating agents, by unskilful and rough manipulations, and generally, by traumatism. Its development, I believe, is sometimes favored by extra urethral pressure or hindrance to the flow of urine in micturition, particularly when the urethra is congested or inflamed. Such an impediment may be produced by the corded edge of a pair of drawers, made high in the crotch, and which press externally against the lower wall of the urethra during urination in the erect posture. This idea is strengthened by the alleged rarity of stricture in Oriental nations, who, I have been informed, urinate not in the upright, but in the squatting position. If this be true, stricture, ethnologically speaking, would seem to be more frequent in "him who piss-eth against the wall," to use the language of the Old Testament.

As a rule, organic stricture, the result of gonorrhoea, occurs almost always in front of the membranous urethra, and involves the bulbous and spongy portion of the canal. It is rarely met with in the membranous part, except as the result of falls, kicks, and other traumatic violence, in which must be included rough surgical manipulations. It probably never occurs idiopathically in the prostatic urethra. When an organic stricture has once formed, it remains, in a greater or less degree, for life; it is not absorbed, and does not disappear. Yet under proper treatment, the canal, at one time narrowed, may be kept largely pervious, and the stricture may thus be deprived of its malevolence and cease to be a source of annoyance. If neglected, or if after having been once relieved by dilatation in any of its forms or by incision and division, either internal or external, it be left to itself, it will almost certainly recur, and sooner or later, revive the ancient

memories of its possessor. I think however, that in all cases, organic urethral stricture, if taken in time, will prove amenable to judicious surgical treatment, and with this object in view, I wish to recall and formulate your clinical experiences of the last few months.

In approaching a suspected case of stricture, the first object of the surgeon, is to arrive at a certain and satisfactory diagnosis. This can best be accomplished by an exploration of the urethra, by means of the acorn tipped bougie with a rectangular shoulder, the bougie-a-boule. This instrument may be either flexible, or metallic, but I prefer the former for a first examination. The presence, number, locality, and calibre of the narrowed points, can thus be accurately determined. Their resistance and firmness can be estimated, by means of the slightly conical metallic Thompson's sound. All urethral instrumentation should be conducted under full antiseptic precaution. Every instrument should be thoroughly cleansed with soap and hot water, both before, and after use, and should also, before introduction be dipped in the sublimate solution of 1-1000, or 2000. As an additional precaution, it is well to brighten all steel urethral instruments with a small piece of well used, fine, oiled emory cloth, before boiling and disinfecting them. We can not be too careful in regard to surgical cleanliness in the urethra, and by attention in this respect, you may find, perhaps to your surprise, that very considerable surgical interference can be tolerated, almost with impunity. This increased tolerance has forcibly impressed me, on mental comparison of the results of my urethral operations during the last few years, with those of the period preceding an antiseptic practice.

When inserting urethral instruments, I advise you always to place the patient on his back; and in employing metallic ones, invariably to follow a uniform method. Thus, stand on the left side of the patient, grasp the penis behind the corona with the left middle and ring finger, and with the thumb and index finger, cause the meatus to gape; and insert the point of the bougie or catheter, the shank of which rests over the patient's left groin. Then gently draw the head of the penis and meat us upwards on the instrument, and keeping the point at first downwards so as to avoid the lacuna magna, slowly carry the handle to the middle line of the body, then by a delicate pushing motion advance the point, and at the same time raise the handle of the instrument so that it shall

be at a right angle, or perpendicular to the axis of the body. Its point will then be immediately beneath the pubal arch. Next raise the instrument slightly, so as to lift its point towards the upper urethral wall, and prevent it from entering into, and being arrested by the sinus of the bulb. By a continuance of the sliding motion (which should never be intermitted) the point will traverse the membranous and prostatic urethra, enter the bladder, and the handle of the instrument will descend between the patient's thighs. By following this formula, pernicious leverage with the point of the sound is prevented, the danger of bruising or tearing the urethral wall is avoided, and the operator at all times knows exactly where the end of his instrument is. In most cases, the urethra rapidly becomes tolerant of gentle catheterism.

With regard to the character of the stricture, and its size, calibre, or want of dilatibility, much has been said, and perhaps the subject has even been somewhat obscured by the very minuteness of classification. Stricture undoubtedly occurs in every degree, from the slightest impediment of the urine flow, to a narrowing, which will not much more than pass a filiform,—strictures of large and small calibre. The gravity of the symptoms is however, often disproportionate to the degree of the stricture, for one of large calibre, if resilient may cause more inconvenience than one which is comparatively tight. It would seem indeed as if the resiliency and irritability of the stricture, its age, or length of continuance, and the amount of involvement of the deep urethra and bladder, rather than a mere degree of tightness, influence its clinical features, and dominate its treatment.

In the treatment of stricture, the first and most natural process, is gradual dilatation. It is readily applied, and is attended with comparatively little danger. As Sir Henry Thompson has told us, "it is always to be tried first, because it is the safest and easiest mode." Theoretically it is a perfect procedure, but unfortunately it is not always applicable. How then will you know when to resort to it? This question can be best answered from clinical experience. In strictures occurring near the meatus, and for two or three inches back in the pendulous urethra, the obstruction is usually more or less resistant, and when dilated, by any process, even if largely overstretched, is apt to recur rapidly and obstinately. Strictures occurring in this portion can without doubt, be more efficiently treated, by internal in-

cision or division, or internal urethrotomy as it is called. This division of the stricture should be followed by the introduction of straight or curved metallic sounds to prevent recontraction. Internal urethrotomy may be effected by the urethrotomes of Maisonneuve or Civiale. The former cuts from before backwards, the latter from behind the stricture forwards. In this Charriere model, the two instruments are combined, it cuts both forward and backwards. Here is the urethrotome of Otis, by which dilatation of the stricturing band is added to its section. Any of these instruments can be safely used in strictures of the anterior portion of the urethra. It must be remembered however, that in cutting from behind forwards, the stricture must first be dilated up to number ten or eleven of the French scale, so as to permit the passage of the instrument, before the blade is sprung.

In advising the division of stricture of the anterior urethra, and especially of the meatus, I must nevertheless, caution you against the indiscriminate and excessive cutting, which has become the fashion of the day. It is unquestionably right to perform meatomy to relieve a mechanical impediment to micturition, or to facilitate the insertion of large instruments for vesical or urethral operations. It must however, always be borne in mind, that the meatus urinarius is a point of normal urethral narrowing. It plays, in this respect, the same part as does the nozzle of a garden hose, which increases the propulsive force of the stream of water. In like manner, the physiological function of the normal meatus is to accelerate, and lend force to the fluid issuing therefrom, be it urine or semen. It is manifest that surgeons should not needlessly disturb, or attempt to improve this arrangement of nature, and should refrain from changing the slit-like aperture of the meatus, into an expanded bell-shaped opening, as too often happens. In this latter condition, dribbling after urination may ensue, and what is perhaps more important, a possible impairment of the life-giving function.

Leaving for the present those anterior strictures which demand and admit a cutting instrument, let me next direct your attention to those deep strictures of really narrow calibre, such as cannot be traversed by an ordinary instrument. These are often spoken of as impermeable or impassible. On this point I will speak positively, and I ask you not to misunderstand me. I do not believe that any idiopathic stricture is ever impermeable. By idiopathic stricture I mean

one which has resulted from urethritis, and not from traumatism or surgical operation or manipulation. Surgical violence, you will comprehend, may readily change an idiopathic into a traumatic stricture. With this limitation, I believe, that in all deep non-traumatic strictures, through which the urine can pass, if only in trickling drops, a filiform whalebone can be carried into the bladder.

I am also certain that over this whalebone, dilating instruments can be guided through any stricture into the bladder, and that the stricture, however tight, can be dilated and by over-distension brought to a comparative cure, as effectively and more safely than by any of the cutting processes.

I am quite aware that you may read and be told differently, and that you may be led to think that in many cases the stricture may be so tight as to defy all attempts at instrumental passage, and demand division by the knife. Yet I cannot but hope that your observations, in this room, and the testimony of those who have assisted in this clinic for many years, may go to sustain the truth of my assertions, as to permeability and dilatibility of these deep, tight strictures.

The instruments necessary for the performance of rapid dilatation, are six or eight capillary whalebone filiforms, a Thompson's dilator, a Gross dilator, and a set of metallic sounds, numbers 20 to 35. For a slower dilatation, to relieve retention the result of aggravated stricture, the same whalebone will be required, also two of double lengths, four or five ordinary English gum catheters, calibre six to twelve French, and an equal number of Gouley's tunelled catheters, beginning with the smallest. The starting point of your manipulations will be the possession of proper whalebone filiforms—filiform bougies as they are often called. Each whalebone should be thirteen inches long, and at its greatest diameter of shaft be so fine that it will readily slide through the number two opening of the French scale. The lower two-and-three-quarter inches should gradually taper until it becomes absolutely capillary, and should terminate in an olive-shaped end or tip.

I advise you to make these instruments yourself. They are essential to your success, and as all those in the market, which I have seen, are coarse, stiff and practically useless, at the risk of being prolix, I will tell you

† These whalebones are manufactured in New York at Nos. 161, 80 and 82 Duane St., for hatters' use. The mercantile gauge is No. 20, and the price about \$5.00 or \$6.00 a gross of 144 pieces, full length.

how to make them. A dozen will last a lifetime, for if you know how to insert them nicely, you will not break or destroy them. Buy from your instrument maker a few fine round whalebones of the thickness of number two French scale. Each length is twenty-six inches, and will therefore make two filiforms of ordinary size. Prepare them thus: Paste a half sheet of fine emory paper on a thin board, then, having cut the end of the whalebone transversely with a sharp knife, place it perpendicularly on the emory and draw it to and fro so as to smoothly round the tip. Next, let the end rest horizontally in a shallow groove on the board, and rotating it between your fingers, scrape it quickly with the knife, from the tip so as to give it the olive shape. Then draw the knife blade edge downward over the whalebone until the latter is sufficiently and evenly thinned, taking especial care to taper the last two-and-three-quarter inches, down to the olive end. Do not use glass for scraping the bones, or a file. If you do so it will destroy the fibre and render the filiform untrustworthy and friable. Do everything with the knife-blade. Finish the instrument by drawing it frequently forwards and backwards through the tunnel of a smallest Gouley's catheter and that of Thompson's dilator. This will insure the ready passage at all times of the metallic instruments along the whalebone. The whalebones thus fashioned are very delicate and perfectly straight. I never use those with spiral or twisted ends, as I have found them uncertain in their action, and deceptive in the information they furnish. After whalebones have been used, they should always be immersed for a few moments in very hot water and then dried with a cloth. If they have become twisted by use they should be placed between the leaves of a large book, and allowed to dry. Twists and kinks are thus removed and the bone preserved straight, uninjured and in good condition for fresh use. Filiforms should be kept in a reed or tin quiver.

You have now an efficient filiform, and you must learn to use it properly. Therefore, bear in mind this cardinal rule, never to attack with a filiform, a stricture, especially a tight one, after the use on the same day of any catheter, bougie, or explorer. The chances are against success if you do. The filiform should always be used first, as any other instrument, soft or hard, especially if of larger size, is apt to press or ram the aperture of the stricture or its walls together. Its opening is thus distorted and rendered difficult of access, and the stricture becomes

for the time impermeable to instrumentation, although passable by urine. Remember this and you may save yourself discouragement and mortification. You have seen me in public decline a filiform attempt after previous skilful and continuous instrumentation, and I did so because I knew my efforts must be futile. In an endeavor to pass a so-called impassable obstruction, you must take every precaution and give yourself every chance. [The Second Lecture in the next issue of REPORTER.]

COMMUNICATIONS.

COLPO-PERINEORRHAPHY.*

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Partial laceration or rupture of the perineum, and more especially of the vaginal portion, thus producing what has been called a skin perineum, the neglect of that laceration, with the consequent development of a rectocele, prolapse of the uterus, cystocele, etc., including all its attendant horrors, and the necessity for this operation of colpoperineorrhaphy, or possibly for either operation separately, is, I am convinced, a not infrequent one, judging by my experience in medical practice.

Meeting, as I do, with many a case in which this accident occurred, it may be years ago, patiently listening to the long history of sorrow and suffering upon the part of the patient, provided you choose to, which will be given forth in volumes, give your time and attention to the recital in all its detail; guided and directed by this experience, I have taken it to heart and resolved to profit thereby.

All this as the result of the parturient act—the only painful process, physiologically, in nature. Perhaps in many cases due to misguided or misdirected efforts upon the part of the attending accoucheur, or in other cases, to a want of any effort at all upon the accoucheur's part,—a mere acting by catalysis, as it were—which I heard thus expressed upon one occasion, and which to my mind should be self-condemnatory; for the accoucheur's duties are sufficiently clear and obvious, to at once destroy this catalytic theory altogether.

*Read before The Montgomery County Medical Society, on July 22, 1891.

I recall that but a few short weeks ago, I was sent for to see a patient—Mrs. B., 68 years of age, who had been stricken with a slight apoplectic seizure. After developing the history of the trouble for which I had been summoned, I made inquiry in regard to other bodily functions, as is my usual rule, and thus touched upon the condition of her bowels, past and present. The facts developed were, that, 41 years ago, she was attended in her second confinement by Dr., afterward Professor Blank, we will name him. From what I learned in this and other cases like it, it appears that the Professor was not in the habit of devoting much time to his obstetric cases, but, on the contrary, gave ergot with a free hand, and applied the forceps early, thus making it appear that his life, if not his practice, depended upon his getting away at as early an hour as possible, upon all such occasions, regardless of consequences.

The result of this method of obstetric practice is well attested by the number of sickly women, who escaped with their lives, at the hands of this obstetrician, and who remained, and some of whom are still remaining, a living testimony unto the dreadfulness of such work and the results which followed therefrom.

In this case, the patient suffered a partial rupture of the perineum, which was neglected, and thus in time there developed all those attendant conditions, which render the life of such a patient miserable, together with a large rectocele. At present, she has frequent desire to evacuate the bowels, with utter inability to do so, except by the employment of purgatives, in order to produce loose and watery evacuations. I told her of the operative measures, which might be instituted in a younger person, but that in view of her age and infirmity, that would be out of the question in her case, and that she would have to bear her bodily affliction until relieved by the Angel of Death, palliative measures being the only ones applicable in her case.

Thus I might repeat, case after case, but a partial history of this one, together with that of the one in which an operation was performed and which I will treat somewhat in detail, will be sufficient for the purpose of the present paper.

In regard to partial rupture, Thomas in his work on *Diseases of Women*, says:

"Complete rupture presents such serious discomforts as a consequence, that partial rupture is by many viewed as a trivial circumstance. So it is by com-

parison, but so likely is it to be followed by prolapse of one or both vaginal walls, that it should never be undervalued. As soon as such prolapse occurs, uterine, vesical and rectal troubles become almost inevitable."

It is not my intention to touch upon the subject of complete rupture of the perineum at all in this writing.

It has been maintained by some one, that, in the progress and development of the human race, the brain itself has become larger and heavier—more developed, and consequently requires a larger brain-case or calvarium to contain it. Hence labors have become more difficult, painful and dangerous in order to give birth to larger heads, and that this will become still more so in the future, I will not attempt either to affirm or to deny this idea, but will leave it to the anthropologist to decide. Simply by this means desiring to call attention, more forcibly perhaps, to the great value and importance of anesthesia in labor. I am an ardent advocate of the administration of an anæsthetic agent, during the process of parturition. It is now an almost invariable rule with me, when called to attend a case of child-birth, to take with me a can of Squibb's ether, for inhalation, and offer it to the patient as the best, surest and safest means of assisting her, in passing through the perils and tortures of child-birth. The pain is without a doubt, acute, the suffering agonizing, and why not make use of an agent, which is capable of almost extinguishing that suffering, and of allowing her to pass through the ordeal, undaunted and undismayed.

Many a surgical operation is performed, in which the pain to be endured would bear no comparison whatever to that of a severe case of labor, where full anesthesia is employed, and which would be considered criminal nowadays, were such agent not made use of under the circumstances.

I have administered ether in labor with none save the best effects and the happiest results, and I now give it with a confidence, born of some experience, and perhaps a good deal of enthusiasm. The fact that it has been of immense service to me, will stimulate me to its continued employment in the future.

And further, the point which I wish to make is, that lacerations of the perineum are, I believe, far less frequent when such an agent is made use of properly, than under other circumstances.

Anæsthetics relax muscular and other tissues, thus allowing the birth canal and perineum to relax or stretch more readily.

It relieves the pain, and hence more time can be allowed for the parts to stretch, instead of to tear. Besides, by using an anæsthetic in this way, it will not be found necessary to resort to the forceps nearly as frequently as is done by many practitioners, thus again diminishing the liability to tears, the forceps being in my opinion an admirable instrument, the more admirable, the less used.

City practice differs very essentially from country practice, and one community may, and undoubtedly does differ, it may be, very materially, from another. In the scope of country in which I have the honor to hold forth as a practitioner of medicine, the gynecologist finds comparatively little work to do. Not that the necessity for his calling does not exist, but, because the majority of patients will object and many refuse any examination for the diagnosis of diseases of the genital organs, much less as a rule, consent to any operation. At times, in some instances, it is only after years of suffering, or by being brought, as it were, almost to the verge of the grave, that they will submit to examination, and if necessary, operation. Such was the case with the patient whose history I am about to detail, an extreme one of its class. To me, it was full of interest, doubly interesting on account of the very marked relief afforded by the operation, after the condition had existed for so many years. The patient, Mrs. Samuel H., first came under my observation during the month of January, 1889. I was called in with the hope of being able to afford her some relief, during a severe attack of sick-headache, and for procuring means to ward off future returns of the trouble, or at least to render them much less frequent and distressing.

These occurrences and especially the concomitant conditions, I may as well describe right here in the beginning. She was subject to sick headache, the assaults being violent in character, and occurring quite frequently, at times, their duration being various, in many instances continuing several days. The pain was very severe, rendering her as feeble and helpless as a little child. Invariably accompanied by vomiting, and when this feature broke in upon the scene, the poetry of the occasion became manifest, it was truly pathetic. When the nausea became distressing, indicating the advent of vomiting, she was compelled to assume a rather anomalous position, so it required two receptacles to receive and retain the discharges, one at either of two rather distant extremities. She was unable to retain her urine, this fluid gushing forth in volumes,

during the violent retching, which formed a part of each attack.

Her inability to control the outlet of this reservoir, was a very distressing feature with her, even when free from headache. In walking she was compelled to be very cautious, not to step too high, nor to indulge in laughter, for all these alike would bring forth a gush of urine, caused by the sphincter relaxing its feeble grip upon the contents within.

The vomiting and retching were violent in character concerning both of which she complained bitterly. These attacks of headache occurred frequently, their recurrence being promoted by the highly unsatisfactory condition of the gastro-intestinal tract, this feature being dependent upon the anatomicopathological condition, to which I am about to refer, and for the restoration of which an operation was performed, which I will presently describe.

At the time of the operation, the patient was 51 years of age, medium in size and stature but of a highly neurotic temperament. In part, on account of inherited nervous predisposition, and in part, due to long-suffering, she had become excessively irritable and despondent, in fact she became a "household tyrant" long since.

Menstruation was still regular in recurrence, this function continuing its regularity until the summer of 1890, about one year after the operation, when she entered the period of the grand climacteric. She had been comparatively free from disease, with the exception of the neurotic element and the violent headaches.

Somewhat more than twenty-four years previous to the time of the operation, she became pregnant for the first time. Labor came on, the case did not advance as rapidly as thought desirable, and thus the attending physician saw fit to apply the forceps. The application was made high up, I have been informed, the delivery was accomplished, and as a sequel, she sustained a partial laceration of the perineum. This rupture was of such a nature as to be misleading, one of a kind which I think Prof. Goodell very aptly designates a skin perineum, the cutaneous portion being but slightly ruptured, or at least only to a limited extent, while within the vulval opening there was extensive separation of the tissues.

In those days, I fancy, operations for the restoration of lacerated cervixes and lacerated perineæ, were not as common, nor as frequently performed, as within more recent

years, or at the present day. At least, in this instance, nothing was done, no attempt having been made to restore the parts to a normal condition.

Right here in the occurrence of this laceration, and the subsequent neglect, in allowing the case to drag along, without performing an operation for the restoration of the parts to their previous condition, the foundation was laid for many years of dreadful, silent suffering. Silent, I said, for not a few women would rather suffer in silence for years and years than approach a medical man upon a subject which appertains to their sexual organs. In this case the lady was especially modest and retiring in her disposition. During the years immediately following the reception of the injury, comparatively little discomfort or inconvenience was experienced, but as the years rolled by, little by little, the difficulty increased and thus there developed a condition of affairs deplorable to the victim and direful to the beholder. This wretched state was connected with the act of defecation, and the manner in which this important process of nature was accomplished, or at times only partly so, I will depict, first giving the results of physical exploration.

Upon examination I found the cutaneous surface of the perineum but slightly ruptured. Within the vulval opening and extending upward upon the posterior vaginal wall, the tissues were separated very considerably, thus making the canal much larger and wider than natural.

When in the recumbent posture by bearing down, this being unnecessary when erect, there would bulge forward an immense tumor-like formation, due to enormous dilatation of the rectum—a huge rectocele. The separation of the tissues above noted, took away a wall or support for the rectum and then the patient, by bad habits, want of attention to personal hygiene, allowing herself to become constipated, with consequent straining at stool, gradually paved the way which brought about the formation of this immense rectal pouch. Thomas says that the tumor thus formed will sometimes equal in size a man's fist. I am quite positive that in this instance it was fully that large, thus making the case an extreme one of its class.

As would be expected, the uterus was displaced posteriorly with descent. The bladder may have been involved somewhat—cystocele—but this was of little account; there was no difficulty in passing water, the trouble was in retaining it. Under the influence of the operation and the subsequent

treatment this was entirely relieved. The point which overshadowed all others was the immense rectocele.

And now as to the manner in which the act of defecation was accomplished, this having been the trouble for many years. In the ordinary position, it was impossible for her to accomplish anything in the way of extruding fecal matter. The feces would collect in this pouch in one solid mass. The rectocele would bulge forward into the vagina, and by sufficient straining would protrude through the vulval opening, and over the perineum, it may be, and thus she would be utterly unable to attain any result. So she would push this mass back, replace it as best she could, bring her thighs in the closest juxtaposition possible while squatting, and then receive an injection of a considerable quantity of water (probably half a gallon) into the rectum, followed by straining—in this way she would generally be enabled to clear out her lower bowel. Even these measures at times failed, and so weakened had she become from long suffering, that, occasionally, she would be unable to go through this performance, but would sink to the floor utterly exhausted, without having completed the evacuation.

We now come to the operation itself.

With this patient, the point of chief importance was the immense rectocele; the other conditions were in comparison to this one, but slight, and hence were practically disregarded. The patient was anxious for relief, and hence my sole purpose and desire was to do an operation which would meet the indications and thus relieve her. I cared but little as to whether I should perform the classical operation of Sims, or of Emmet, upon the posterior wall, or any of the other set operations described in our text-books.

Friday, August 2d, 1889, I operated, assisted by my colleague, Dr. Keeler, and my father. The patient was anesthetized and placed upon her back upon the table. The thighs were flexed upon the abdomen, and held there by two assistants, the lateral walls of the vagina being retracted by right-angled retractors.

Previously, the rectum had been thoroughly emptied, first giving a purgative, then flushing it with water to clear away all debris.

With a pair of scissors, I then proceeded to make the denudation, which I did from below upward, first upon the perineum and then upon the posterior vaginal wall toward the uterus. I made it sufficiently wide, so as to grasp plenty of tissue in passing the

sutures, in order to obtain a firm cicatrix after the healing process had finished, and thus afford a firm wall for the bowel to press against during the act of defecation, the vagina being large and relaxed, thus affording plenty of room for so doing. The denudation was given somewhat the shape of a triangle, with the apex of the triangle up and the base down, this being in imitation of Hegar's operation, I find, although I was not aware of it at the time of so doing. The sutures were then inserted into the vaginal portion first, catgut being used for this part; for the perineum, I made use of silver wire, silk being used to draw the silver sutures into position, then drawn tight, and retained by compressed shot.

In regard to after-treatment, the patient was put to bed and kept as quiet as possible, in the horizontal position, but without any bandaging of the knees or thighs. The parts were kept as clean as possible, by the daily use of antiseptic injections of bichloride, 1 to 2000. The catheter was employed for the first few days for removing the urine. The bowels were kept soluble, to prevent any accumulation, and thus distension where this had existed so long and to prevent any straining upon the part of the patient, and thus possibly separation of the freshly-united surfaces.

Part of the silver sutures—every alternate one—were removed at about the end of a week, the remaining ones a few days subsequently. The catgut sutures required no attention.

The parts healed very rapidly, and, as far as I was able to ascertain, there was no pus whatever formed during the reparative process. Convalescence was rapid and the result of the operation thus far—now nearly two years—has been all that could be expected or even desired. With proper care and attention to the condition of her bowels, she is now able to move them, to attend to this function of nature, with as much comfort as prior to the accident, which induced the morbid condition. In fact, the patient was transferred from a condition of torment upon the one hand to a state of Elysium upon the other.

After the operation, the patient was placed upon general tonic treatment, which has been continued with occasional intervals up to the present time.

COLLODION OF SALOL, useful in acute rheumatism, is obtained by dissolving salol 4 in ether 4, and adding to collodion 30 parts.

AMPUTATION OF THE CERVIX UTERI.¹

BY J. D. CUMMINGS, M. D.,
AUSTIN, TEXAS.

Thomas in his work on the "Diseases of Women" says that "Ambrose Paré was the first surgeon who advised amputation of the cervix. In 1802 the operation was systematized by Osiander, who performed it twenty-three times, and after this it was resorted to by Dupuytren, Recamiér, Hervez de Chegion, and others. Lisfranc later on reported 99 cases with only two deaths. Huguier reports thirteen operations and no deaths; Sims over fifty operations and one death."

Thomas further says that by the galvano-cautery much better results are obtained. Out of the large experience of Dr. Byrne, of Brooklyn, with it no fatal cases are reported. The writer has not access to later cases of the operation except for carcinoma of the neck of the womb. This same authority reports twenty cases with no bad results. I am also apprised that so high an authority in uterine surgery as Dr. T. A. Emmett has said that this operation is only indicated in some cases of malignant or cancerous disease of the cervix. Many leading authorities, among them Barnes, of London, Thomas, of New York, and J. Marion Sims recommend amputation of the cervix for not only malignant diseases, but for enlargement of the cervix, from inflammation increasing the connective and other tissues of this part of the uterus; elongation of the cervix, whether congenital or due to disease; conical cervix, whether with or without elongation; granular or cystic degeneration, whether of the cervix or os of long standing and not remedial by other procedures. I will add to this list certain cases of lacerated cervix where the tissue has been deeply involved in the laceration, leaving a hard cicatrix, which often gives rise to multifiform symptoms and general bad health. Also ragged eating ulcers, not yet cancerous in their nature, but liable to become so if not relieved. Again, whenever there is no doubt that the neck of the womb presses on the bladder so as to interfere with the proper performance of the function of this organ, not easily remedied by other means, undue induration of the cervix, leading to suspicion of ensuing cancer. In any case where the indurated or elongated

cervix interferes with conception, if it is desirable to have offspring, whether necessary as an addition to dilatation of the internal or external os uteri or not. In these cases very often where women have been married for years without having conceived, the external os will be found very narrow as well as the internal os. It is the opinion of the writer that the elongated or enlarged cervix is often the source of much trouble in malpositions of the womb, if malposition does not often follow as an effect. In the conical elongated cervix retroflexion of the womb necessarily follows. In such cases removing the redundancy allows nature to effect and maintain the proper relation of the pelvic parts. As an aid to relieve severe cases of ante flexion, requiring operations of various kinds for straightening the uterine canal, it is believed by the writer that a thorough amputation of the neck of the womb would be one of the best preliminary operations, if it does not relieve the trouble entirely. Different modes of performing this operation have been recommended. Among them I may mention the galvano-cautery, scissors, ecraseur and knife. I have used the knife and have had no bad results. Sims for a time would take off one lip and wait several months and then remove the remaining one. He, however, found this procedure unnecessary. With modern means of controlling hæmorrhage and its rare occurrence in this operation, I am induced only to mention it as one of the possible dangers following the same. Under antiseptic precautions, sepsis will rarely follow. As to cutting higher than is anticipated, and thereby opening up the peritoneal cavity, we may remark that we would be liable only in removing large malignant or other tumors, and should this complication arise proper drainage and antiseptic measures would probably insure complete recovery from the operation.

From the foregoing considerations it would follow that we would expect almost every case operated on in a proper manner to recover from the effects of the operation. As to any ultimate harm following the operation to the patient, it is the opinion of the writer that it cannot be shown. It certainly does not prevent conception, but, on the other hand, is liable to be followed by it. In two out of three cases that have come under my observation several children followed in the usual succession in each case.

CASE I.—Mrs. J., operated on July 12, 1882. There existed general bad health. Examination showed a conical cervix and a narrow os. No untoward symptoms fol-

¹Read before the Austin District Medical Society, June 23, 1891.

lowed the operation. Good health followed and several children.

CASE II.—Mrs. P., was operated on about the same time; she had had one child. There existed a ragged eating ulcer, which failed to heal from ordinary applications, such as nitrate of silver, iodine, etc. Amputation of the cervix uteri resulted in complete recovery of the patient, and she has been confined repeatedly since.

CASE III. was operated on recently. She had been in bad health since marriage eight or ten years ago; has had no children, but has been treated by several physicians at times with some benefit, but with no permanent relief. One of the chief complications was frequent and painful micturition, accompanied with much burning, and a milky, cloudy condition of the urine, showing irritation of the bladder. On examining the womb, the external os was very small, and the neck was conical in shape and somewhat elongated; more or less hardness of the neck also existed. The internal os was very narrow, hardly admitting the smallest sized sound. Retroversion existed in a marked degree. The sound had to be bent backwards in order to enter the body of the womb at all. An attempt to replace the organ and internal applications of Churchill's tincture of iodine were made but no relief followed. Amputation of the cervix was then recommended and assented to by the patient. May 9th she came in from the country prepared to remain until the operation and its effects were over. Drs. Mathews and Pointon assisted me in the operation. The knife was used and a Λ -shaped piece of the neck, including the anterior and posterior lips of the womb was removed. The point of the Λ -extended nearly to the internal os. Two stitches of silk, one on either side of the external os, sufficed to bring the parts under good cover of healthy tissue. The bladder symptoms persisted for several days, but have since entirely disappeared. The general health has very much improved. While the internal os on first examination after the operation seemed to be sufficiently pervious, yet some pain accompanied the first menstrual period. Since the patient has visited me at my office, and I found a very much contracted condition of the internal os, and later I incised the same and fully dilated both the internal and external os. The last report from the case was very favorable indeed.

In the subject chosen for this paper I am aware that I am treading upon ground that

may be said to be forbidden by some, and that in the recommendation of this operation I cannot be said to be in the fashion. Yet, at one time, not many years ago, when our lamented Sims so ably defended this procedure, then it was popular. Since his death, lacerated cervix with its accompanying operation has had its day, and has run what may be said to have been a very popular course, and numbers with its victims probably more failures than any other operation ever done in so short a time. Since laparotomy for diseased ovaries and tubes may have swung too far in the extreme, many ovaries and tubes having been extracted that would have rendered their victims more happy by letting them alone, yet with all this, many otherwise doomed would have been relieved of long and excruciating suffering by the removal of their diseased ovaries and tubes. Painful os uteri have been remedied by well directed operations for repair of lacerated cervix, and the writer must contend that amputation of the cervix has its proper field of usefulness, and it extends farther than narrowly limiting it to removal of cancerous cervixes.

ALIMENTATION AND ARTIFICIAL FOODS.*

BY F. C. HERR, M. D.,

OTTOWA, KANSAS.

Prior to the time that physiologists came to regard life processes as an even balance between constructive and destructive metamorphosis in the tissues—the blood included—the problem of scientific feeding did not seriously enter into the subject-matter of the physician's thought. The inspiration of the practitioner then was the empiricism of the past, and to deplete our ensanguinated system, to rouse into activity a torpid liver, to lull pain and soothe disquiet with strong opiates, fulfilled the indications of scientific therapeutics. But the evolution of a great science has changed all this; the tyranny which that opinion exercised over the professional mind was abolished by the genius of a man whom we all honor in our daily professional life. I refer to Dr. Robert Graves. He made the world his debtor when he said to his pupils, "If you are at a loss for an epitaph to inscribe on my tomb, you may use these words: 'He Fed Fevers.'" It is

* Read before the Kansas State Medical Society, at Wichita, May 15th, 1891.

well sometimes to go back and look over the work of the masters, to impress more firmly upon the mind those great principles of our science which constitute the corner-stone of rational and scientific medicine. Dr. Graves saw, in advance of other men, the disasters of protracted abstinence, and in language strong and eloquent he urged systematic feeding as the sheet-anchor of the physician's hope in exhausting disease.

I quote one brief passage from the work of Dr. Graves: "Now, in a person laboring under the effects of fever and protracted abstinence, when sensibilities are blunted, and where functions are deranged, it is not at all improbable that such a person, perhaps also suffering from delirium and stupor, will not call for food, though requiring it; and that if you do not press it on him and give it as a medicine, symptoms like those which arise from starvation in the healthy subject may supervene, and you may have gastro-enteric inflammation or cerebral disease, as the consequence of protracted abstinence.

"You may perhaps think that it is unnecessary to give food, as the patient appears to have no appetite, and does not care for it. You might as well allow the urine to accumulate in the bladder, because the patient feels no desire to pass it. You are called on to interfere when the sensibility is impaired, and the natural appetite is dormant, and you are not to permit your patient to encounter the horrible consequences of inanition because he does not ask for nutriment."

What a splendid plea for enforced feeding. It has proved an inspiration to medical teachers, and has filled with new hope and endowed with new resource the medical practitioner.

The dynamic forces of life are preserved through the maintenance of effective nutrition. It is an axiom of physiology that, not what we eat, but what we digest and assimilate, conduces to the up-building of the body and the support of life. "From the food the blood is fed; from the blood the tissues are fed." A simple proposition is this, but it embodies a vast deal of medical philosophy. Roughly stated, it might be said that the order of sequence in the construction of a vigorous body is good food, good blood, good tissues.

The progress of knowledge has disclosed this vital truth in relation to organic functions, namely, diseased action is not exalted vital force, and the paramount indication in all forms of disorder is the maintenance of the highest possible degree of healthful nutritive activity. To fail to take cognizance

of this is to abandon the most potential lever that science furnishes for the successful combat of disease.

As that ensemble of physiological phenomena which we call life is the resultant of chemico-vital changes in the food, primarily it follows as a corollary that too great care cannot be exercised in the selection of nutriment. In it are the potentialities of life; in it may lie concealed, in unassimilable elements, the possibilities of gradual, but inevitable decay. Dr. Lander Brunton affirms that the mal-products of nutrition are positive depressant poisons. Physiological experiment confirms this, and the observations of the clinician give equal strength to the statement. Lives have been sacrificed to ignorant and injudicious feeding, and the administration of drugs often does not so much tax the skill and knowledge of the physician as the administration of food.

Here I am confronted with the very practical question of specific form and variety of food. And I may premise what may follow with the statement that a variety of elements enter the inter-question of suitable food. First the quantity of food as to purity and freedom from adulterations; second, its nutritive value; third, its digestibility; fourth, its palatability. Looking carefully over this order of arrangement in the essential qualities of suitable food I am reminded that palatability is an element of such vast importance that it should perhaps be given in the first place, in order. The therapist has indicated the necessity for good foods, and the chemist's art has placed at his disposal one after another of much vaunted nutrients, and still the question confronts us: Has science furnished us with a food that will meet the indications for nutriment in a wide range of morbid states—a reliable food—easy of digestion, readily assimilable, agreeable to the taste, and with all such in nutritive material.

The dietetics of the sick-room like all things else, change. It is within the memory of men young in the profession when beef-tea and beef-essence, in the minds of the laity, possessed more importance than the physician with all his resources. And a prejudice still lingers with many people, and with some physicians, in favor of these once much used and much esteemed aliments. But the educated physician sees in them little more than the merits of a placebo and the consensus of enlightened judgment, is in favor of forms of artificial food that have been shown by analysis to possess in large degree, and in readily assimilable form, all

the constituent elements of the human body. The busy life of the average practitioner does not afford time nor opportunity for the investigation of these special subjects, and in the belief that the ends of scientific medicine will be there subserved I desire to submit to your consideration some facts which I have collated respecting the comparative merits of a variety of artificial foods. In doing this I desire to emphasize one obvious truth, namely, that all artificial foods are made with the paramount design to sell.

And it is the hope of their manufacturers that the medical profession will find in them enough of merit to justify their endorsement. The interest of the physician lies in restoring health to the sick and afflicted; the interest of the manufacturing chemist in creating a market for his products whether they be good, bad or indifferent.

I have an abiding conviction that the highest interests of our patients are often sacrificed to a credulity which compromises our best judgment in these matters. The best medicine is not a whit too good for our poorest patient, and only the best food should receive our endorsement. It is furthermore incumbent upon us as educated men, charged with grave responsibilities, to know that what we do use is the best obtainable.

But what is the best? In regard to the matter of foods I have secured the analysis of nine varieties or brands of artificial food, the Mosquera's Beef-Meat, Armour's Ext. of Beef, Liebig's Ext. of Beef, Beef Peptonoids, Wyeth's Beef Juice, Valentine's Meat Juice, Cibil's Fld. Ext. of Beef, Bush's Bovinine, and Murdock's Liquid Food. These foods comprise the best known and most favored preparations upon the market. They are all candidates for our support. They come to us highly lauded—all of them—by their manufacturers. Some are good, some indifferent, some worthless. Some will render great service in times of dire need, others, with much of promise, and more of parade, will be found barren of life giving qualities.

The mal-products of nutrition—as Dr. Brunton observes are depressant poisons. Urea, whether elaborated within or without the system, is a physiological poison. The same is true of creatin.

A reference to the attached table will show that Liebig's Ext. of Beef, and Armour's Ext. of Beef contain nine and a fraction per cent. of nitrogen—a very fair percentage. But it would be an error to accept this as representing the actual percentage of available nitrogen in these pro-

BRAND.	Moisture.	Fat.	Mineral matter.	Phosphoric acid.	Total nitrogen.	Total protein or albuminous matter.	Peptone.	Contents, (weight) of each package.	Retail price.	Comparative value, based on total albuminous matter.	Equivalent of each package in raw beef, based on total albuminous matter.
Mosquera's Beef-Meat.....	8.91 %	10.34 %	4.02 %	1.47 %	12.5 %	78.1 %	27.17 %	8 av. ozs.	\$0.50	\$0.50	32 av. ozs.
Armour's Ext. of Beef.....	24.0 %	Trace	22.5 %	6.82 %	9.24 %	57.74 %	None	2 av. ozs.	0.50	0.0925	6 av. ozs.
Liebig's Ext. of Beef.....	21.4 %	Trace	22.5 %	6.36 %	9.18 %	57.37 %	None	2 av. ozs.	0.50	0.0925	6 av. ozs.
Beef Peptonoids.....	10.0 %	8.7 %	4.6 %	1.7 %	3.8 %	24.06 %	Trace	6 av. ozs.	1.00	0.0115	7.5 av. ozs.
Wyeth's Beef Juice.....	61.8 %	None	19.25 %	2.38 %	4.48 %	28.0 %	None	1.75 fld. ozs.	1.00	0.05	2.5 av. ozs.
Valentine's Meat Juice.....	60.8 %	None	7.5 %	3.18 %	3.41 %	21.31 %	0.51 %	1.75 fld. ozs.	1.00	0.035	2 av. ozs.
Cibil's Fld. Ext. of Beef.....	57.2 %	None	20.25 %	3.64 %	3.64 %	23.75 %	Trace	2.75 fld. ozs.	0.60	0.0475	3.25 av. ozs.
Bush's Bovinine.....	83.1 %	None	0.8 %	Trace	2.4 %	15.0 %	Trace	6 fld. ozs.	0.60	0.075	4.5 av. ozs.
Murdock's Liquid Food.....	84.6 %	None	0.5 %	Trace	2.13 %	13.31 %	None	8 fld. ozs.	0.55	0.0535	3.0 av. ozs.

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ducts. In the Liebig process of manufacture the meat is simply treated with either cold or warm water, and the extracted matters contained in the resulting solution are subjected to evaporation, leaving a paste containing all the soluble constituents of the meat without any or very little of the proteid matter. The percentage of nitrogen designated in the table is, therefore, misleading, as it exists in the form of urea and creatin largely. The Armour's Ext. of Beef is prepared in the same way, and contains the same effete nitrogenized constituents. Dr. Fothergill has cast deserved imputation upon this class of foods, by declaring that they did not possess much more nutritive value than concentrated urine. But, in addition to the unavailable nitrogen these extracts contain a large percentage of moisture and mineral matter, and are devoid of fat and peptones. These forms of artificial food possess a nutritive value in weight twice perhaps in excess of lean meat or beef.

The beef peptonoids of Carnwick are shown by analysis to be a most inferior food. They have always stood in favor with the profession. The suave emissaries who so generously enlighten us upon these matters always assure us that beef peptonoids represent five times their weight of nutritive value in beef and milk. The table shows that it is free from peptone, hence its albumen, from whatever source it is derived, is in a crude condition, and has never been subjected to a peptonizing process.

In the percentage of proteid matter beef peptonoids compare unfavorably with other preparations of the list, while more than 50 per cent. of the preparation is soluble in water, and resembles dextrine—plainly indicating that the starch has been largely converted—no matter from what source derived, and probably by cooking ordinary wheat flour. Beef peptonoids are inferior in real nutritive value to the foods made after the Baron Liebig process.

I do not feel that much could be gained by elaborating upon the individual articles named in the table. It indicates at a glance the comparative nutritive value of these foods. But I cannot dismiss the subject without a reference to powdered beef, and Mosquera's beef-meal and beef-cacao. You are quite well aware that powdered beef is simply the residue left after extracting the meat with water.

In the manufacture of Liebig's extract a vast quantity of material accumulates, and the profitable disposition of this has led to

the production of powdered beef. This preparation has the endorsement of some eminent therapeutists, among them Dujardin Beaumetz, and in reality it is a concentrated food, differing from beef, which contains 75 per cent. of moisture, it containing none, while at the same time it is free from the inorganic salts which are so essential in the digestive process. It is just as much of a tax upon the digestive functions as pure beef, and all things considered, it is less desirable as a food, especially in conditions of enfeebled and disordered digestion.

Mosquera's beef meal and beef-cacao are among the newer candidates for professional favor. They have already received the endorsement of reliable, and competent observers. Prof. Crittenden, of Yale College has made a careful analysis of beef-meal, and he estimates its nutritive value at least six times its weight in lean beef.

Dr. Martin, chemist of the Health Board in New York, as also Dr. Justus Wolfe of the same city, estimates it to be ten times as nutritious as the natural meat. Prof. John Atfield, London, England, testifies that a personal examination made by him of beef-meal shows that it is superior to any preparation to which his attention has been called.

Here let me remark that beef-meal is not a ready prepared food. It is entirely wanting in flavor and seasoning. These you must supply just as you would in the case of beef-steak. Your mastery of the cuisine will determine in a large degree the measure of utility in this food as it is not contraindicated in any condition of morbidity—it is equally applicable in simple indigestion, and in typhoid fever. The mode of preparation of this food is opposed to the Baron Liebig process which assumes that the extracted and soluble principles represent the nutritive wealth of the beef. The fact is that the nutritive value of these extracts has never been established by analysis until now, and their clinical worth has been wholly a matter of assumption.

When the residue, left after extraction by the Liebig process, is subjected to the action of pepsin and pancreatin it is dissolved and converted into peptone—thus showing that nature meant it for a food, and that it is in reality the nutritive portion of the beef.

In the preparation of beef meal nothing is taken from the beef but water, and nothing is added to it except a small percentage of extractive matter contained in the juice of the plant used in the peptonization of the albuminous constituents of the meat.

As in most forms of sickness the balance

between waste and repair is lost, the consumption of tissue accelerated and emaciation with prostration ensues, it becomes imperative to supply the economy with such food as will repair the waste, give strength to the enfeebled tissues, and furnish fuel for the consuming fire. I do not know of any food that will do this in the same measure that Mosquera's beef meal will. The comparative value of this food is shown in the table.

My attention was called to the Mosquera foods early in the history of their introduction, and I have faithfully tried them in a variety of disorders—always with good results—sometimes with surprising ones. I have no hesitation in affirming that as a food, and a medicine in all forms of dyspeptic derangement beef-cacao has no equal. Not that it will speedily and certainly restore to health every subject of these disorders, but that it will in the majority of cases afford relief, and in a large percentage effect a cure.

If after your accustomed morning meal you go to your labor with a feeling of languor and apathy; if you feel as the dyspeptic usually does, borne down by an invisible load of something, just mix with a cup of hot milk one tablespoonful of beef-cacao for your breakfast meal, and you will go to your daily task with a clear head and a light heart.

A great multitude of slight ailments are directly traceable to enfeebled digestion and impaired assimilation. The pathogenic condition here is sub-normal nutrition—the result of excessive ingestion of coarse and non-assimilable food. Here beef-meal alternated with beef-cacao will soon change the complexion of things. I cannot stop to consider or indicate these special conditions; they are legion, but Dr. Lionel S. Beals, in his "Slight Ailments" has passed them all in review, and had he known then that the plodding scientist would soon place at our disposal such foods as these he would have urged their use.

You are all aware that nutriment may be furnished to the body, and life sustained, without the use of the digestive organs proper. The mode of alimentation by enemata, since the introduction of beef-meal, has grown to be a most satisfactory method, indeed. The Mosquera foods are so thoroughly adapted to every purpose of easy assimilation that nutrition is accomplished by absorption, as distinguished from digestion with surprising facility.

I am well aware that the employment of nitrogenized food in febrile diseases is hardly

in consonance with the orthodox practice. But we are not obligated to orthodoxy. Besides, the latest scientific and clinical researches refute the theory that animal foods are contra-indicated in febrile states. The excretion of nitrogenous products is much increased in all forms of pyrexia, and reasoning a priori the conclusion would be inevitable that as nitrogenous metabolism is already excessive it would be injudicious to introduce into the system yet more nitrogen. But the experiments of Immerman, confirmed later by Bauer and Kunstle, entirely subvert this theory, and expose the fallacy of such reasoning. These investigators have shown that in typhoid fever albuminous food is beneficial, not because it diminishes the excretion of nitrogen, but because it supplies this element to the febrile tissues, and "nitrogenous foods alone are capable of being converted into the albumin and fibrin of the blood, and thus assimilated by the tissues."

In all forms, therefore, of protracted pyrexia, Mosquera's foods are invaluable. Small quantities of beef-meal frequently administered will supply to the economy a large percentage of tissue-forming elements, and it will be demonstrated in the near future that not only must fevers be fed, but the food supplied must be of the character here indicated in order to achieve the best results. Let not the bias of early teaching stand in the way of accepting new doctrine. If men always conformed to precedent and experience the march of progress would be slow indeed.

In the manifold forms of bowel derangement so common in miasmatic regions, these foods will be found available. In actual dysentery I have employed them with excellent results. Being largely predigested and easy of assimilation, they are not contra-indicated in any condition. Only one exaction do they make of the physician, namely, that they shall be seasoned to be made acceptable to the patient. The same is true of almost every other food, and while this labor and skill is being expended, it is as well to expend it upon foods of superior merit. In current medical literature I see reports of cases of pulmonary consumption treated by Profs. Gibbes and Shurly with iodine, and gold and sodium chloride hypodermically, and chlorine gas locally, with a reliance upon Mosquera's foods for adequate nutriment. Whatever influence any system of medication may have upon the pathology of tubercle, all will admit that the profound disturbance in the nutritive processes in this disease appeals to our knowledge and skill

for prompt and efficient relief. And to-day, if I were placed in charge of consumptive patients exclusively, and given my choice between drugs and foods as exclusive agents in their management, I would say give me the foods.

What are the diatheses and cachexia that haunt the doctor's mind? What do they require at our hands for their eradication? Medicine? I imagine not. More of sunlight, more of fresh air, more of judicious exercise, and, greater than all, *more of good food* is the *sine qua non* of substantial amendment in them. So the good results obtained by Profs. Gibbes and Shurly might, perhaps, with strict propriety, be ascribed to the judicious use of good food.

After all, what is every disease but some modification of nutritive function; in its final analysis every morbid process is some derangement, slight or grave, in the up-building forces of the economy.

Dr. Frederick L. Knight, before the Climatological Association at the 1890 session, said, "at present, the usual preparation of food is so bad that after one has found out the class of nutriment a patient requires it is well-nigh impossible to secure it."

It is beyond question that these foods—beef-meat and beef-cocoa—are the best artificial foods yet offered for use.

As the table shows only the composition of beef-meat, it may be here remarked that beef-cocoa comprises equal parts of beef-meat, sugar, and Dutch chocolate, so that it is about one-third the food-value of beef-meat.

In nursing women, beef-cocoa meets the indications of an ideal food.

In surgical practice, where the problem of dietetics is important, these foods must find a wide range of applicability.

In the multiform neurasthenic conditions of women they are highly serviceable where time-waste exceeds repair, and where repugnance to food appears a constitutional quality.

The physician can choose from a multitude of drugs and foods that which he will use, but duty bids him to employ only those that are good—duty to the sick and suffering and confiding public.

The natives of the New Hebrides smear the points of their arrows with a swamp ointment, the poisonous agent in which, according to Dr. Ledantec, is the septic vibrio of the tetanus bacillus.

SOCIETY REPORTS:

AMERICAN SURGICAL ASSOCIATION.

THE TWELFTH ANNUAL MEETING OF THE ASSOCIATION WAS HELD IN WASHINGTON, D. C., SEPTEMBER 22, 23, 24, AND 25, 1891.

TUESDAY—FIRST DAY.

The Association was called to order by the President, Dr. Claudius H. Mastin, of Mobile, who delivered the Presidential address.

The next paper was by Dr. D. Hayes Agnew, an abstract of which follows:

PRESENT STATUS OF BRAIN SURGERY BASED ON THE PRACTICE OF PHILADELPHIA SURGEONS.

What is the present position of brain surgery and what practical lessons can be deduced from a review of the recorded results in this department of surgery? The object of the author was not to glean the entire field, but to confine himself to the work done by Philadelphia surgeons in trephining for epilepsy, traumatic and Jacksonian intracranial abscess, hemorrhage, hydrocephalus, cephalalgia, microcephalus, and neoplasms.

Traumatic epilepsy.—Fifty-seven cases were recorded. Of this number forty-one recovered from the operation. Four died, and of twelve the result is not given. Thirty-two experienced temporary relief, nine obtained no benefit, four passed out of observation, and four were operated on too recently to permit of the result being determined, and four are reported cured. In one of the cases reported cured, the patient has been free from attacks for twenty-eight months, in two for ten months, and in the fourth a branch of the great occipital nerve was found imprisoned in the bone cicatrix. While the results in these cases have not been satisfactory, it by no means follows that surgery holds out no hope against epilepsy. It is not saying too much to assume that surgery is responsible for the great majority of traumatic epileptics, though this statement does not by any means criminate the surgeon of an early day. Whenever the profession can accept the doctrine that all depressed fractures, however slight the depression, and entirely irrespective of pressure symptoms, are proper subjects for trephining, then will traumatic epilepsy largely disappear from

the list of surgical diseases. It is not improbable, in view of the greatly diminished risk of trephining, that the operation will be extended even to cases of simple fracture or fissure of the skull.

Jacksonian epilepsy.—The table contains fourteen cases. In all the discharging centre was removed. Nine recovered and four died. Of those recovering, three had less frequent and less violent attacks, one realized slight benefit, one disappeared shortly after operation, and in two no benefit was observed. One is reported as cured, and in that case the operation was done during the present year.

Abscess.—Eighteen cases of this nature have been collected. Six had had fracture of the skull, two had syphilitic necrosis, in one a foreign body had entered the brain, in nine the abscess was due to middle ear disease, and in two there had been a severe blow without fracture of the skull. All the patients died in less than fourteen days.

Five cases of trephining for intracranial traumatic hemorrhage are recorded in each instance. The symptoms necessitating operation developed within twelve hours after the reception of the injury. Four of the five cases recovered not only from the operation, but with the restoration of the suspended functions.

Of trephining for acute and chronic hydrocephalus, five cases are reported. All the cases died, one living to the forty-fifth day. As hydrocephalus is usually due to tubercular disease or to morbid growth, it is difficult to understand on what ground such operations are undertaken.

Cephalalgia.—Five cases are given, in each of which the focus of pain was referred to the neighborhood of a scar on the scalp. In four of the cases complete relief was afforded.

Trephining for microcephalus.—Seven cases are reported, of which four died and three recovered from the operation. One of the deaths, however, was due to scarlet fever, occurring shortly after the operation. The result in the successful cases is reported as "moderate improvement." From the results obtained from the education of idiots, the author thought it wiser to relegate these unfortunates to special training schools, rather than to the trephine and rongeur. The debatable cases would be those accompanied with athetosis, in which condition some improvement might be obtained.

Brain tumors.—Only four operations for brain tumors have been done by Philadelphia surgeons. In one the growth was a

fibroma weighing four ounces. The operation was done by Dr. Keen, December 15th, 1887, since which time the patient has had only six epileptic seizures. In the second case, done by the same operator, the tumor was in the occipital lobe and not removable. The patient died the following day from shock and hæmorrhage. In the third case no tumor was found, and in the fourth a cyst occupying the cuneus was found and emptied. The patient died in thirty-six hours, and at the autopsy a large sarcoma was found occupying the temporal sphenoidal lobe.

The deductions presented by the author are as follows:

1. That all fractures of the skull attended with depression, however slight and entirely irrespective of symptoms, should, in view of the late after effects, be subjected to the trephine.

2. That trephining for traumatic epilepsy promises only palliation at best.

3. That trephining for Jacksonian epilepsy is to be regarded as only affording temporary benefit.

4. That trephining for abscess, in view of the fact that all such cases left alone almost invariably terminate fatally, is entirely proper, and that the earlier such operation is done the better.

5. That trephining for intracranial traumatic hæmorrhage is both an imperative and highly promising operation.

6. That trephining for cephalalgia or traumatism, medical measures having failed, should be undertaken with every prospect of success.

7. That trephining for hydrocephalus is a useless operation.

8. That trephining for microcephalus, independent of athetosis, confers no credit upon surgery.

9. That it is more than probable that, as our observations multiply, the sphere of the trephine as a preliminary for the removal of brain tumors will be lessened rather than be amplified.

DISCUSSION.

Dr. John Chiene, of Edinburgh, did not take the same depressing view in regard to traumatic epilepsy. He referred to three cases in which decided benefit had followed operation. He agreed fully with what had been said in regard to operation in depressed fracture whether symptoms be present. As regards methods, he spoke of simple measures for locating the fissure of Rolando. The upper extremity may be located by means of a piece of string, being one-half

inch behind the middle. The angle may be secured by folding a square piece of paper into four, around one of the angles. Three of these parts will give the proper angle. The purification of the scalp is a difficult matter but may be accomplished by shaving and soaking with carbolic lotion for three days. For opening the skull he advises as safer than the trephine, the gauge and mallet. For enlarging the opening the gauge forceps fill a useful purpose. For puncturing the dura and the brain he uses a Græfe knife. Hemorrhage from the bone may be checked by plugging with a match, bleeding from the brain, by hot water. Stress was laid upon the necessity of constant watching of brain cases and illustration cases cited. In one case of supposed injury to the head (but which later proved to be a case of apoplexy,) in which the patient was in a dying condition, great improvement eventuating in practical recovery followed trephining.

Dr. W. W. Keen held that every case of depressed fracture should be operated upon even in young children. A blow upon the head, not sufficient to cause fracture may produce laceration of the dura or of the cortex. In regard to linear fracture, however, he was disposed not to accept the views that operation should be performed. In regard to tapping of the ventricles, he thought that further experience and an improved technique would lead to better results. In epilepsy he suggested the use of the bromides after operation had been done. In many cases of brain tumor, where there is no hope of removing the growth, great comfort may be afforded the patient by removal of bone.

Dr. Charles D. Nancrede, Ann Arbor, reported cases in which cure had followed operation for traumatic epilepsy, in one the case was of ten year's duration. Often cases that are reported as failures, soon after the operation prove to be cures when followed for a longer time. The operation removes only one of the elements that is causing the epilepsy. In speaking of these operations he stated that hemorrhage from the skull could be checked by forcing in the diploe. In regard to simple fissured fracture he asked how the diagnosis could be made.

Dr. Roswell Park, Buffalo, differed from the author as regards the results of operations for epilepsy. He had himself had cases in which decided benefit was afforded. In order to determine the effect, time must elapse so that the epileptic habit may disappear. The operation removes the anatomical cause, but ordinary therapeutic measures are needed to counteract the secondary condition. Refer-

ence was also made to the relief afforded in brain tumors even when the removal of the growth was not contemplated. He reported two cases of craniotomy for microcephalus in which benefit had followed.

Dr. H. C. Wood, Philadelphia, thought that we should wait before coming to any conclusions as to the result of treatment either medicinal or surgical. He referred to one case in which under medicinal treatment the attacks remained absent for seven years and then returned. He advised that in these cases before the contemplated operation was performed, a mock operation should be done and the effect noted. He cited cases in which such measures had been followed by benefit.

Dr. J. J. Putnam, Berlin, thought that a simple smooth depressed fracture would not be likely to cause any symptoms. The presence of a sharp spicula of bone probably will cause irritation. Probably the most important element in the causation of trouble is the results of the original injury to the cortex. The interstitial changes in the cortex takes the form of sclerosis and it seems *a priori* doubtful that removal of the bone would materially affect it. The operation may not prove indifferent for the cicatrization of the wound may lead to harm.

Mr. Thomas Bryant, London, had been much struck with the emphasis with which Professor Agnew had insisted upon the treatment to be followed in depressed fracture. As a practical rule he was disposed to agree with him, but there are certain exceptions; he did not think it wise to encourage the practitioner to trephine and elevate every case of depressed fracture. He could recall many cases of depressed fracture followed for years in which no symptoms followed. Depression of the lateral aspects of the skull are not so apt to be followed by symptoms as depression of the vault of the skull. From these remarks, he said, it would naturally follow that he disagreed with the observation that in every case of fissure of the skull, operation should be done. He wished Dr. Agnew had gone more thoroughly into the reason for this statement. If there has been no brain symptoms, although the blow may have been sufficient to cause fracture, it would not be wise to insist that we should at once proceed to explore to see if there is fracture. It is better to wait and watch for symptoms, being ready to operate as soon as there is a suggestion of something wrong. Although the risk of exploring operation may be slight, yet it must be admitted that it is attended with some danger.

Dr. D. Hayes Agnew:—In traumatic epilepsy I did not condemn operation, but curative results should not be expected from it. Its result is only one of amelioration. He could not withdraw his statement made in the paper, for in many of the cases of traumatic epilepsy, there has been no history of unconsciousness or other symptom. There has been a blow on the head and many years later epilepsy has appeared. It is impossible to determine the condition of the internal table of the skull by inspection of the external table. He had seen a simple crack in the skull with the internal plate forced downwards some distance.

A paper on Resection of the Wrist, by Dr. Rafael Lavista, of Mexico City, Mexico, was presented and read by title.

REPORT OF A COMMITTEE ON THE RESULTS
OF TREATMENT OF SIMPLE FRACTURE
OF THE FEMUR, BY STEPHEN SMITH,
M. D., NEW YORK.

At the meeting of the American Surgical Association held May 15, 1890, the following preamble and resolution was adopted:

WHEREAS, In the treatment of fracture of the shaft of the femur, the question often arises as to what is a satisfactory result in a given case, therefore

Resolved, That a committee be appointed by the President, to report at the next meeting of the Association, what in their judgment under the methods of treatment, would be considered as satisfactory results.

The following committee was appointed: Dr. Stephen Smith, New York; Dr. D. Hayes Agnew, Philadelphia; Dr. David W. Cheever, Boston; Dr. D. W. Yandell, Louisville; Dr. Chas. T. Parker, Chicago; Dr. P. S. Conner, Cincinnati; Dr. Charles B. Nancrede, of Ann Arbor and Dr. Hunter M'Guire, Richmond, Va.

The question referred to your committee has an important bearing upon the jurisprudence of surgical practice. One of the most frequent causes of prosecution of surgeons is the alleged maltreatment of fractures of the femur.

The following circular was sent by the committee to the members, "What should be considered as a satisfactory result (other than perfect union) in the treatment of a simple fracture of the shaft of the femur." The committee has reviewed the several questions raised and endeavored to secure a common ground on which the Association can take its position, and on which

members can individually stand before the courts.

1. Bony union: The necessity of firm bony union does not admit of discussion. The amount of callus should not be taken as a criterion of the success of treatment.

2. Relation of long axis of the fragments. While it is the aim of the surgeon to restore the normal relation of the long axis of the fragments, yet it is generally impossible to secure exact apposition of the fractured surfaces, nor can the normal long axial line be restored with mathematical precision.

3. Correspondence of the anterior surfaces of the fragments. On this depends the position of the foot. The result of treatment to be satisfactory requires that the anterior surface be in the same plane.

4. Length of limb. This was formerly regarded as the test of success of treatment. The records of the past shows that shortening was the universal rule. The discovery of the natural discrepancy in the length of the lower limbs has considerably modified our estimate of this test 90 per cent. of healthy, uninjured persons have lower limbs of unequal lengths. In 35.8 per cent. the right limb is the longer; in 54.3 the left is the longer. If the amount of shortening does not exceed the average natural difference in the length of the limbs, viz: about one-half an inch, the result will be in accordance with the laws of nature in the conformation of the lower extremities. If the shortening does not exceed the extreme limit of difference in the lengths of the natural limbs, viz: about one inch, the result should be considered satisfactory. An unsatisfactory result as regards shortening exists only when the amount of shortening exceeds one inch.

5. Lameness: This is a symptom of variable importance. Some will have a limp with one-fourth inch shortening while others will not limp with one-half or one inch shortening. In many cases the limp disappears with time, or if it continues it is the result of careless habits of the patient.

6. Restoration of function. Essential to the function of the femur is strength of the femur at the seat of fracture, free and unimpeded action of the muscles and proper motion of the knee-joint. The determination of the degree of restoration of function can not be made for at least one year after the cessation of treatment.

7. Conditional results. There is a class of cases in which our estimate of results must be based upon a careful study of the special circumstances connected with the treatment

of each case. Results widely different from those already given, must be regarded as satisfactory when we consider the circumstances under which the treatment is necessarily pursued. The treatment may have been conducted under circumstances in which it was impossible to secure proper apparatus, or the injury may have involved other parts so as to prevent the patient from taking the necessary position, or the patient may have suffered from delirium or other malady.

The following conclusions were presented: A satisfactory result has been obtained in the treatment of fracture of the shaft of the femur when—

1. Firm bony union exists.
 2. The long axis of the lower fragment is either directly continuous with that of the upper fragment or the axes are nearly parallel lines, thus preventing angular deformity.
 3. The anterior surface of the lower fragments maintains nearly its normal relation to the plane of the upper fragment, thus preventing undue deviation of the foot from its normal position.
 4. The length of the limb is either exactly equal to that of its fellow, or the degree of shortening falls within the limits found to exist in 90 per cent of healthy limbs, viz: from one-eighth of an inch to one inch.
 5. Lameness, if present, is not due to more than one inch of shortening.
 6. The conditions attending the treatment prevent other results than those obtained.
- Adjourned.

WEDNESDAY MORNING—ASEPTIC AND ANTISEPTIC DETAILS IN SURGERY, BY DR.

A. G. GERSTER, NEW YORK.

Personal cleanliness and cleansing of the field of operation are to be accomplished by mechanical measures, rather than by disinfectants. The dirt and oily matter of the skin is removed by emollient potash soap and stiff brush. This is followed by the germicidal lotion. The hands of the surgeon may be sterilized in the following manner. The nails are trimmed short, the hands scrubbed with soap and brush in hot water for one minute. The nails are then cleaned and the hands immersed in strong alcohol, and then washed in 1:1000 corrosive sublimate solution. Brushes require careful attention. They may be sterilized by boiling for five minutes in water containing 1 per cent. of washing soda. They should be kept in 1:1000 bichloride solution.

Instruments are sterilized by boiling for five minutes in soda solution, in a covered vessel. The addition of the soda prevents formation of rust.

Dressings are rendered absorbent and sterilized by steam. Strong antiseptic agents in dressings are objectional from their action in the skin. Dressings may also be sterilized by boiling in soda or potash lye.

The use of Florida sponges was recommended, as owing to their cheapness they can be used once and then thrown away. Boiling of sponges is to be condemned. Sponges are best prepared by heating, followed by immersion in dilute muriatic acid. Acid is removed by washing. Then immersed in water for two days to permit the spores to germinate. Each sponge is then kneaded in hot water for one minute with potash or soft soap. They are then placed in 5 per cent. carbolic solutions for 24 hours. As a substitute for the large flat sponges used in laparotomy he recommended the substitution of pads of absorbent gauze.

In operating, few instruments, sponges and assistants should be employed. The dissections should be clean, the tissues being cut rather than torn. Irrigation should not be employed except when special indications present.

In the abdominal cavity irrigation was condemned. When the peritoneal cavity is contaminated by pus, etc., simple wiping away of the matter is sufficient.

In perfectly aseptic operations, no drainage is required. Iodoform gauze can often be substituted for the use of tubes. Drainage by tubes is required where there is progressive suppuration.

In combating septic morbid processes, mechanical measures such as incision, drainage and irrigation are of more importance than chemical measures.

DISCUSSION.

Dr. J. Collins Warren, Boston, described the details of operative surgery as practiced in the Boston City Hospital. The Massachusetts General Hospital and the Children's Hospital.

Dr. J. William White, Philadelphia, thought that the time had not yet arrived when the use of antiseptics could be dispensed with. He preferred an antiseptic dressing in all cases except where the wound is absolutely sterile and where no discharge is to be expected. While in a general way he agreed as to the value of mechanical measures in cleansing the skin he saw no good reason for throwing aside entirely the

use of the weaker chemical solutions. There are so many cases in which we can not be sure that the wound is aseptic, antiseptic dressings become of importance. He had tried the gauze substitute for sponges in abdominal work, but had found it objectional from the fact that when the gauze remains long in contact with the intestines, threads of the gauze adhere to the intestine.

Dr. Joseph Ransohoff, Cincinnati, said that in some cases it was absolutely impossible to render the part aseptic and cited cases illustrating this point. In cases where it becomes clear that the wound is infected, he removes the dressings and soaks the part in hot water. He had discarded the use of sponges altogether. In the majority of cases he employs the aseptic dressing, but could see no harm in the use of antiseptic dressings. Dressings, etc., in private practice may well be sterilized by heating in the oven. He thought that tight closing of the wound should be practiced oftener than it now is. Drainage is rarely used except in wounds already septic. He often uses catgut for drainage. In the septic cases he thought that probably the surgeon was often responsible for the infection of the wound. By clean incisions, cutting far away from the disease, and by not using the sharp spoon too freely, infection of the wound in suppurating cases can often be prevented.

Dr. E. M. Moore, Rochester, asked what objection was there to irrigation? In amputations for instance irrigation in the 1:1000 bichloride solution affords a ready means of removing clots, etc. The clots are removed and the wound can be left in a dry state. If this irrigation does no harm, why not use it? Dr. Gerster had condemned it, but he had not given his reasons for such condemnation. In certain cases of abdominal section, especially, where there was oozing of blood the use of hot irrigation of aseptic water was of great service.

Dr. Gerster, in including, said that he did not condemn antiseptic methods. He employed both methods. In its proper place asepticism is infinitely superior to antisepticism, but the cases must be properly selected. Teachers must be careful not to go too far in advance of the rest of the profession. Those who have not learned the details should be warned to stick to the older methods and work up the higher methods.

THE SURGERY OF THE SPINE, BY J. WILLIAM WHITE, M. D., PHILADELPHIA.

The conditions discussed were, congenital

deformities, tuberculosis of the spine, neoplasms and traumatism. Under the first head, spina bifida is the only condition requiring consideration. In this, injection by an iodo-glycerine solution offers the greater prospect of ultimate recovery with the least immediate danger.

In tuberculosis of the spine the indications for interference are the evacuation of pus, removal of a sequestrum or of a focus of carious bone, and relief of the cord from pressure.

There are records of 14 operations upon the bodies of vertebrae for abscess, with 8 cures, 5 cases improved and one death which had no relation to the operation. There have been 40 cases of operation on the spine for the relief of pressure. In 22 there was either improvement or cure. The effect of suspension in the treatment of Pott's paralysis has been so favorable that it should occupy a prominent position.

Conclusions in regard to operative treatment of spinal tuberculosis with symptoms of pressure on the cord were:

1. The paralysis in Pott's diseases is not as a rule, due to a transverse myelitis or hopeless degeneration and is not usually due to the pressure of the carious or displaced vertebrae; but is in the majority of cases the result of an external pachymeningitis which results in the formation of an extra-dural connective tissue tumor.

2. Speaking generally, a favorable prognosis is to be given, especially in children in cases of Pott's paralysis, in which the abscess, if any exists, can be evacuated; the treatment by extension and with plaster jacket can be employed and the patient can be put under the most favorable hygienic conditions.

3. In cases in which all this has been tried unsuccessfully or in those which disease is slowly but steadily progressing to an unfavorable termination; where with more or less complete loss of motion and sensation below the level of the lesion, there are incontinence of urine and feces and the development of bed sores, and especially when acute symptoms threaten life, resection becomes entirely justifiable.

4. Operation having been decided upon for any or all of the above reasons, the prognosis will be favorable in direct proportion to the youth and strength of the patient, the absence of generalized tuberculosis and the nearness of the lesions to the base of the brain.

5. When the tuberculosis process affects the arches, and there is paraplegia, we may

sometimes operate, hoping not only to free the cord, but at the same time remove the focus of disease. This double indication may also be fulfilled in those cases where, without bony disease there is posterior pachymeningitis or a tuberculoma occupying the canal.

6. If the lesion of the bodies of the vertebrae is in the lumbar region at a point where these bodies are accessible, it might be possible in certain cases to expose the cord from the back, by removal of the laminae, with the object not only of removing pressure, but of reaching and taking away the diseased bone and tubercular granulation.

7. In tuberculosis of the body of a vertebra and compression of the cord by anterior pachymeningitis, we can fulfil only one indication—liberate the cord from pressure. We should operate only in grave cases where acute compression, the appearance of respiratory complications, the rapid development of degenerative processes force us to interfere, or where the course of a chronic case is steadily toward a fatal termination, although no advanced visceral tuberculous lesions are present.

In regard to neoplasms, it was said that every case of focal spinal lesion, thought to depend on a tumor and not distinctly a malignant and generalized disease, should be regarded as amenable to operative interference, no matter how marked the symptoms of pressure may be, nor how long continued.

Traumatism.—The indications and contraindications for trephining in spinal fractures are based on the following points: 1. The nature of the vertebral lesion and the nature and extent of the medullary lesion. 2. The time which has elapsed since the traumatism. 3. The regional level of the medullary lesion.

The following conclusions were presented:

1. Some objections urged against operative interference in spinal traumatism—*i. e.*, hemorrhage, frequency of absolute destruction of the cord, pressure from inaccessible fragments of bone, etc., have been shown to be unsupported by clinical facts; others were largely due to a well-founded dread of *a*, the shock, in those cases operated on in pre-anæsthetic times, and *b*, consecutive inflammation, suppuration, and pyæmia in pre-antiseptic periods.

2. Some results of recent operative interference in properly selected cases of fractures of the spine are encouraging and should lead to the more frequent employment of resection of the posterior arches and laminae; *a*, in all cases in which depression

of those portions either from fracture or dislocation is obvious; *b*, in some cases in which, after fracture, rapidly progressive degenerative changes manifest themselves; *c*, in all cases in which there is compression of the cauda equina from any cause, whether from anterior or posterior fracture or from cicatricial tissue; *d*, in the presence of characteristic symptoms of spinal hæmorrhage, intra or extra medullary.

3. Operation is contra-indicated by a history of such severe crushing force as would be likely to cause disorganization of the cord. The question which will remain in doubt previous to operation will usually be that of the extent of damage done to the cord, and the possibility of its taking on a reparative action. As to this, the safest rule is that which has been formulated by Lauenstein, namely, that if after the lapse of six or ten weeks there is incontinence of urine or incontinence of feces, and especially if there is also the development and spreading of bed-sores, but little is to be hoped for from the unaided efforts of nature. If, however, these symptoms are absent and if there be the least improvement it will be proper for the surgeon to delay operative interference still longer.

DISCUSSION.

Dr. H. H. Mudd, of St. Louis, dwelt upon the importance of remembering the liability of severe shock in these spinal operations. He reported three cases of bullet wounds of the spinal column, one of which ended fatally.

Dr. John B. Roberts, Philadelphia, insisted that injuries and diseases of the spine of a surgical kind should be treated as we treat injuries of the cranial cavity. Cases of Pott's disease, with angular curvature, have been referred to, but sufficient stress has not been laid upon the fact that many of these cases with motor paralysis improve under ordinary remedies, the inflammatory exudation being absorbed. In traumatism of the spine we should explore the spine as we should explore the brain. In severe injuries, with fracture, spicules of bone are often driven down on the cord.

Dr. J. J. Putnam, of Boston, thought that the dangers of inflammation had not been sufficiently dwelt upon. Some cases of spinal injury after one to four years show some improvement. In such cases an operation may add to the improvement.

Dr. James M' Cann, reported two cases of spinal injury in which operation had been

performed. In one death followed. In the other there was great improvement.

THE TREATMENT OF TUBERCULOSIS OF BONES AND JOINTS BY PARENCHYMATOUS AND INTRA-ARTICULAR INJECTIONS, BY DR. J. N. SENN, CHICAGO.

The following conclusions were presented.

1. Parenchymatous and intra-articular injections of safe anti-bacillary substances are indicated in all subcutaneous tubercular lesions of bones and joints accessible to this treatment.

2. Of all substances, so far employed in this method of treatment, iodoform has yielded the best results.

3. The curative effect of iodoform in the treatment of local tuberculosis is due to its anti-bacillary effect and its stimulating action on the healthy tissues adjacent to the tubercular product.

4. A ten per cent. emulsion in glycerine or pure olive oil is the best form in which this remedy should be administered subcutaneously.

5. The ethereal solution should never be employed as it is liable to cause necrosis of the tissues overlying the abscess or iodoform intoxication.

6. Tubercular abscesses and joints containing synovial fluid or tubercular pus should always be washed out thoroughly with a three to five per cent. solution of boracic acid before the injection is made.

7. Injections should be made at intervals of one or two weeks and their use persisted in until the indications point to the cessation of tubercular inflammation and the substitution for it of a satisfactory process of repair or until the result of this treatment has shown its inefficacy and indications present themselves of the necessity of resorting to operative interference.

8. If the treatment promises to be successful, symptoms pointing to improvement manifest themselves not later than after the second or third injection.

9. In tubercular empyema of joints and tubercular abscess, gradual diminution of the contents of the joint or abscess at each successive tapping, lessening of the solid contents of the fluid and increase of its viscosity, are the conditions which indicate unerringly that the injections are proving useful and that in all probability a cure will result from their further use.

10. Moderate use of limb is compatible with this method of treatment, provided the

disease has not resulted in deformities which would be aggravated by further use of the limb. In such cases correction of the deformity should be postponed until the primary joint affection has been cured by the injections.

11. Para-chymenitrim and intra-articular medication with anti-bacillary material, has yielded the best results in tubercular spondylitis attended by abscess formation and tuberculosis of the knee and wrist joints.

12. This treatment may prove successful in primary osseous tuberculosis followed by involvement of the joint, provided the osseous foci are small.

13. Extensive sequestrums of articular ends with secondary tubercular synovitis, always necessitates resection, but preliminary treatment by iodoform injection into the affected joints constitutes a valuable preparatory treatment to the operation and adds to the certainty of a favorable result.

14. In open tubercular affections of joints, incision, scraping, disinfection, iodoformization, iodoform gauze tampon, suturing and subsequent injection of iodoform emulsion is advised, and yields excellent results, and should be employed in all cases in which a more formidable operation can be avoided.

15. Balsam of Peru ranks next to iodoform in the treatment of tubercular affections of bone and joints, and if the latter remedy for any reason can not be employed or has failed in effecting the desired result, it should be given a fair trial, if operative treatment is not urgently indicated. Adjourned.

SELECTED FORMULÆ.

ASTHMA POWDER.

R

Pulv. stramonii fol.....grammes xxxij.
Pulv. belladonnæ fol..... " xxxij.
Pulv. potass. nit..... " iv.
Pulv. opii..... gramme j.

Burn a little and inhale the fumes.—
Buffalo Med. Jour.

REMEDY FOR MIGRAINE.

R

Caffeini citrici.....grammes 0.9
Phenacetini.....gramme 0.1
Sacch. lactis.....grammes 0.5

M. Ft. chart. No. 5. Sig. One powder every two hours until relieved.

—Med. Age.

TO PREVENT SORE NIPPLES.

Apply a mixture of tannin and glycerine, two drachms to the ounce, daily during the last month of pregnancy. This renders the nipples tough, but elastic.—*Annals Hygiene*

THE MEDICAL AND SURGICAL REPORTER.

ISSUED EVERY SATURDAY.

THE BUTLER PUBLISHING CO., (Incorporated),

PROPRIETOR AND PUBLISHER.

EDWARD T. REICHERT, M. D., Editor,

(Professor of Physiology, University of Penna.,)

Office, S. W. Cor. 36th and WOODLAND AVE.,

Philadelphia, Pa.

CHAS. K. MOUNT, Advertising Manager.

DIRECT ALL COMMUNICATIONS TO

P. O. Box 843.

Philadelphia, Pa.

TERMS: Five dollars a year, strictly in advance, unless otherwise specifically agreed upon. Sent 3 months on trial for \$1.

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The Editor will be pleased to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

LEADING ARTICLE.

AN ANALYSIS OF 1008 CASES OF SCARLET FEVER ADMITTED INTO THE SOUTH-WESTERN FEVER HOSPITAL DURING THE YEAR 1890.

Since the publication in 1887 of the monograph of Dr. Astley Gresswell on the *Natural History of Scarlet Fever*, in which was studied 375 cases of scarlet fever treated in the South-Western Hospital, of London, we have been fortunate in having been furnished from this same Hospital some exceedingly valuable data. Dr. F. Foord Caiger, believing that a brief record of a considerable number of cases of this disease successfully treated under conditions favorable for observation would be of value, contributes, in the *Lancet* of June 13, 1891, an analysis of 1008 cases admitted to the Hospital in 1890. In this paper he considers: (1) Seasonal Prevalence, (2) District Prevalence, (3) Age, (4) Sex, (5) Mortality, (6) Complications, (7) Period and Extent of Desquamation, (8) Treatment.

I.—SEASONAL PREVALENCE.—This seasonal prevalence of the disease, as evidenced by the monthly admissions, was in accord with that observed in London during the last seventeen years. The admissions were at their lowest during the first quarter of the year. A slight rise was observed in May, and was maintained during the summer. A rapid increase was noted in September, and reached its highest point in October. After this the numbers fell rapidly until the end of the year. The curve of scarlet fever admissions into this hospital in the main corresponds with that of the total admissions into the hospitals of the Metropolitan Asylums Board. They numbered for the year 6565, and represent about 43 per cent. of the notified scarlet fever in London.

II.—DISTRICT.—Of these cases the parish of Lambeth contributed 585, or 58 per cent.; Wandsworth, 334, or 33 per cent.; other parishes, 89, or 9 per cent. The district from which they are drawn is not without its influence upon the case mortality. It is a

recognized fact that the poverty-stricken inhabitants of the poorer neighborhoods, in consequence of their lower vitality, show a much weaker power of resistance to the attack of scarlatina than those who are better housed and better fed. In this respect, though a large proportion of the patients came from the poorest parts of Vauxhall, Waterloo, and Battersea, they were not so badly off in the aggregate as those entirely drawn from the East-end districts. With this reservation there was nothing noteworthy in the type of disease observed throughout the year.

III.—AGE DISTRIBUTION.—The largest number of admissions fell within the second quinquennium of life; 449, or 44.5 per cent., of the total were between five and ten years. The first quinquennium furnished the next largest number; 314, or 31.1 per cent., were aged from one to five years. If these groups be examined more in detail, it will be seen that the number of admissions regularly increased with each year of life up to the fifth year, at which age they reached their maximum, after which they fell somewhat more gradually until ten years was reached. After ten years each quinquennium showed a progressively decreasing number until forty years was reached, after which age only two were admitted. It will be seen that after ten years the drop in the number of admissions at each quinquennium until twenty-five years was reached was considerable. These charts may be taken as characteristic of the total scarlet fever admissions under the Metropolitan Asylum Board for many years past.

IV.—SEX.—The numbers for the two sexes were nearly equal. Males, 509; females, 499. Under five years the males exceeded the females in the proportion of 7 to 6; whereas over five years the preponderance was slightly in favor of the females.

V.—MORTALITY.—The death-rate, calculated according to the Registrar-General's formula, comes out at 4.67, a very satisfactory figure when it is remembered that the mortality was 32.48.

VI.—COMPLICATIONS.—The following

figures give the percentage incidence of the various complications observed in cases completed during the year arranged in their order of frequency:—Otitis occurred in 12.9 per cent. of cases, adenitis in 7.1 per cent., rhinitis in 6 per cent., eczema in 3.3 per cent., albuminuria (simple) in 3.1 per cent., ulcerative stomatitis in 2.8 per cent., nephritis in 2.7 per cent., rheumatism in 2.7 per cent., bronchitis in 2.08 per cent., conjunctivitis in 1.35 per cent., tonsillitis (secondary) in 1.24 per cent.

Otitis, attended with a purulent discharge, was the most frequent complication. It occurred in 124 cases, mainly in young children. The younger the child the greater its apparent liability to the disease. In most instances it began with earache, and more or less fever and restlessness, lasting from one to three days, which symptoms rapidly subsided on the appearance of the discharge. Though the majority were due to otitis media with perforation of the tympanum some few were apparently caused by a simple inflammation of the external auditory canal. There seemed to be a direct connection between the severity of the scarlatinal attack and the early development of the affection. The milder cases were attacked less frequently, and usually at a later period of their illness, occasionally several weeks after the subsidence of the fever. The continuance of the discharge varied from three or four days to three or four months. Most cases were clear within two weeks. All were detained in Hospitals until the discharge had entirely ceased. This was usually effected by means of simple treatment. In three instances suppuration occurred over the mastoid process, but by means of early incision down to the bone possible suppuration of the mastoid cells was averted. In only one case did there appear to be very marked impairment of hearing at the time of discharge from the Hospital, but to obtain accurate knowledge on this point was difficult owing to the extreme youth of the majority of the patients. Only one case of otorrhœa occurred in a patient over ten years of age. No case of meningitis or

pyæmia developed during their stay, and as all discharges were cured before the patients were sent home, there is some hope for an immunity in the future. It is a point worth bearing in mind that extreme fetor of discharge in otitis media is not necessarily dependent on bone disease.

Adenitis occurred in 69 cases, and was the next in order of frequency. The adenitis here alluded to is a distinct affection, and does not include the glandular swelling directly associated with the faucial inflammation which, though in some instances so slight as to be hardly noticeable, in others assumes such proportions as to deserve the name "bull neck," a symptom of the gravest omen, being associated with extensive ulceration of the fauces, a fetid discharge from mouth and nose, and symptoms of a pyæmic type. The affection referred to is a rapid swelling of one or more of the glands of the neck, usually at the angle of the jaw, sometimes beneath the sterno-mastoid, attended with a fresh rise of temperature, quite apart from the original febrile attack, from which it may be separated by an interval of from one to three or more weeks. It either more or less rapidly resolves, or it suppurates, often with little or no reddening of skin or periadenitis. Of the 69 cases, 17, or about one-third, suppurated, necessitating surgical interference.

Rhinitis, with a more or less purulent discharge, occurred in 58 cases. It was frequently associated with otorrhœa, and was relatively more common in young children. In recording instances of this complication Dr. Caiger has endeavored to eliminate as much as possible those cases in which the discharge appeared in the first week, during the height of the fever, at which time, in common with several others, it is a *symptom* of grave prognostic value. It is always a difficult matter to determine where the line should be drawn between symptoms and early complications. It would be well if the field could be cleared of any such assumed distinctions, but in the present state of our knowledge some such empirical distinction is at least a matter of convenience.

Eczema was noted in thirty-two cases. Its most frequent seat was at the junction of the *alæ nasi* and upper lip, behind the ears and on the ear itself, especially at the external auditory meatus and within the groove of the helix. It seemed in many instances dependent on the presence of an irritant discharge from the nose or ear, and, from the fact that it is very difficult to prevent young children from picking a sore spot, its extension in an impetiginous form to neighboring parts of the face frequently occurred. Young children showed a greater liability than older ones, and its incidence was most marked in cold weather and on patients taking a meat diet. In some cases it necessitated a prolonged detention in Hospital. Several cases of *eczema capitis* were very tedious in their convalescence.

Albuminuria was recorded in thirty cases. This small number does not pretend to include all cases in which faint and transient traces were present at one time or another. Those showing a faint cloud during the pyrexial stage of the attack and those cases in which a faint haze with picric acid was observed for not more than three consecutive days are not included in the list.

Dr. Gresswell states that he found albumen in the urines of 93 per cent. of his cases, and in the months of October and November in every one, the urines usually being tested every other day, and a neutral saturated solution of picric acid the reagent employed. Difference of season and epidemic type may doubtless, in some degree, account for the discrepancy; moreover, the individuality of the observer and the nature of the test he employs are not without their influence. The cases were treated in the same wards, and with practically the same environment. The only variation lay in the matter of treatment. The diet *scale* remained the same in the two series. Dr. Gresswell's ordinary cases appear to have been kept on "low diet," consisting of beef-tea, milk, and two eggs (in the case of children over ten years four eggs) for a period of three weeks, during which time no baths were given. In the cases under discussion in this paper the

patients were put on a meat or fish diet with no eggs (in the case of children over ten one boiled egg,) and were ordered baths on the day following that on which the temperature had reached the normal. This usually occurred about the end of the first week. Both series of patients were kept in bed for three weeks after admission. Their treatment, therefore, during the second and third weeks differed in this respect. Dr. Gresswell's cases were taking a diet rich in highly diffusible albumen without any baths; Dr. Caiger's cases own a much less proportion of easily diffused albumen and frequent baths, and it was during the first three weeks that Dr. Gresswell found albumen in 100 per cent. of of his October and November cases.

With the exception of a slightly higher rate during the October and November cases, the albuminuria has been spread nearly uniformly over the year. Young children were affected in larger proportion than their elders; 93 per cent. occurred in children under ten, the relative admissions for that age period being 75.

Ulcerative Stomatitis occurred in twenty-seven cases. They varied in severity from the mildest form of surface ulceration on the lips, tongue, and buccal surface of cheek, arising in connection with spongy gums and carious teeth, to a rapidly necrotic form of deep ulceration, attended with extensive sloughing of cheek and gum. In this latter form the teeth soon become loose and fall out. Cases of all degrees of severity are attended with a distinctive fetor of breath, a dirty coated tongue, and rapid incrustation of the teeth with a black putrefactive deposit. Under suitable treatment, and, in the severe cases, very radical treatment, all recovered. Half-measures are of no use. If the disease does not almost at once yield to mild measures, fuming nitric acid, if necessary under chloroform, should be freely applied to the whole of the diseased surface. Within thirty-six hours the whole process will have changed.

Nephritis supervened in twenty-six cases. Though nearly equally distributed throughout the year, they were relatively slightly more frequent during the summer months.

Twenty-three of these cases occurred within the first three weeks of illness. The incidence of nephritis was therefore very small—viz., 2.7 per cent. This is in marked contrast with the statement which appears in the article on "Scarlet Fever" in Roberts' *Theory and Practice of Medicine*, 1890—viz., that the most frequent and important complication and the one that requires special notice is acute nephritis and its consequences.

Rheumatism of sufficient distinction to cause a rise of temperature, and obvious joint tenderness was seen in twenty-six instances. In two instances the pericardium was affected, in two an apparently valvular murmur developed, but one of these had probably been the subject of antecedent endocarditis. Pleurisy in connection with rheumatism was seen in only two instances. The joints most frequently affected were those of the extremities, the arms more frequently than the legs, and the wrists, elbows, and ankles, than the shoulders, hips, or knees.

Scarlatinal rheumatism most frequently occurs at the end of the first or beginning of the second week, at a time when the rash is just disappearing and the temperature reaching the normal. There seems to be a greater liability in patients who have had a copious rash, followed by profuse desquamation. It is comparatively more frequent in adults and in older children, and shows but little tendency to affect the heart, pericardium, or pleura. Its incidence seems to be independent of season. It is relatively as frequent during the summer and autumn as during the colder months.

Bronchitis occurred in twenty instances. It was mild in character, and almost invariably appeared during the febrile stage. It was relatively more frequent during the cold weather.

Conjunctivitis of a mild muco-purulent type occurred in thirteen instances. It was mainly an affection of convalescence, and readily yielded to treatment. No case terminated in corneal ulcer or serious eye mischief.

Secondary tonsillitis sufficient to cause a

rise of temperature occurred in twelve cases. They all made a rapid recovery.

It is satisfactory to note that in no instance did diphtheria, either faucial or laryngeal, make its appearance among the scarlatina convalescents.

Relapse or recrudescence of the disease was seen in six instances. Great care should be taken in recording such instances to eliminate all cases in which there exists any reasonable doubt as to the genuineness of either attack, as it may be suggested that either the initial or the second one may not have been an instance of true scarlatina. In four cases out of the six the symptoms in each attack were so distinctive that if their genuineness be in dispute it can only be urged that we have, then, no reliable criteria of an attack of scarlatina. Rash, throat, tongue, the course of the temperature and peeling were in each instance characteristic of the disease. Three of the relapses occurred during the second and third week of illness—viz., on the twelfth, fourteenth, and seventeenth days; two in the fifth week, and one in the seventh week. In three of them—viz., those occurring on the twelfth day, fifth week and seventh week respectively, the relapse, in one case complicated with nephritis, was of greater severity than the primary attack.

VII.—DESQUAMATION.—The period and extent of desquamation varied in different cases within wide limits. In some instances, mainly in adults and very young children, it was completed in less than six weeks. In others it was prolonged to twelve, or even sixteen weeks. With the exception of a few in whom a condition of xeroderma was natural, no case was sent home until all sign of peeling had disappeared, discharges from mucous cavities and sores had ceased, and the urine been for several weeks free from albumen. In infants, as is usual, peeling was but slight and transient. The average detention in hospital was slightly over nine weeks.

VIII.—TREATMENT.—In the large majority of cases no special treatment was indicated, symptoms being dealt with as they arose. In those with severe throat and glan-

dular affection, frequent syringing out of the fauces and nares with a solution of chlorine or boracic acid was most useful as serving to clear away offensive secretions and lessen discomfort. In such cases the frequent application of hot poultices was of great service. In restlessness and sustained pyrexia cold and tepid spongings were useful to promote sleep, and sulphonal in some instances proved a valuable hypnotic. The cases were treated in bright and well ventilated wards, maintained at a temperature of 56° to 60° F., the average cubic space per bed being about 2,000 ft. The diet during the pyrexial stage consisted of milk, beef tea, eggs, and ice, after which a more solid diet of milk pudding, bread and butter, with fish or meat, was given, and at the same time baths were ordered on alternate days. Stimulants were only employed in severe cases, usually in the form of brandy or champagne. Uncomplicated cases were allowed to get up at the end of the third week, and except in wet weather, sent out of doors for several hours usually each day, due care being taken that flannel was worn next the skin and the clothing otherwise warm and generally sufficient. Complications were dealt with as they arose, and, with the exception of otorrhœa, were rarely seen after the third week.

With reference to the treatment of scarlatinal nephritis, Dr. Cagney was not in the habit of using drugs in ordinary cases. A death from scarlatinal nephritis in his hands is an event of the greatest rarity. In this series of over 1,000 cases of scarlatina only one death occurred from scarlatinal nephritis, the child being admitted with nephritis, and dying a few days after in convulsions.

CORRESPONDENCE.

GASTRALGIA CURED BY ARSENIC.

TO THE EDITOR OF THE MEDICAL AND SURGICAL REPORTER:—Ten drops of Fowler's Solution of Arsenic three times a day for three days would probably have cured the case of gastralgia reported by Dr.

Alice McLean Ross in a previous number of the REPORTER. It will now in all probability prevent its recurrence. This is what cured (in 6 drop doses) Dr. Valentine Mott of severe neuralgia of the stomach, occurring immediately after a four months course of lectures, his last, in his 78th year.

For fissured nipples I notice several remedies in your journal.

The worst case I ever saw, was cured speedily by the application of oil of eggs, immediately after nursing, to the dried nipple, then covered with a bees-wax shield to protect it from the clothing. This I used successfully at home, and in many other cases after all other things failed. This is Sherman's Celebrated Nipple Oil. I gave him the receipt which is as follows: Break two fresh eggs in a frying pan, wiping the pan clean of grease, place it over a smart coal fire. They will cook, dry, char and remain like charcoal, for perhaps an hour or more, then turn to a blackish antiseptic oil, which will not get rancid in twenty years; this I know by leaving a small bottle open from which I used the oil.

EDW. VANDERPOOL, M. D.

BOOK REVIEWS.

PULMONARY CONSUMPTION, A NERVOUS DISEASE: considered as such from a practical, a clinical, and a therapeutic standpoint. By THOS. J. MAYS, M. D., Professor of Diseases of the Chest in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Geo. S. Davis, Detroit, Mich., 1891. 16 mo., 185 pp. Paper, 25 cents; Cloth, 50 cents.

In this volume of the Physician's Leisure Hour Series, the author endeavors to show that the principle causes and nature of pulmonary consumption are of direct neurotic origin. In other words, he looks upon consumption as a neurosis, and evidently wishes to discard entirely the bacillary origin of this disease. His chief reason for belittling or abolishing a dependence on bacilli is apparent in his preface, in which he states that "Any one who takes a calm and impartial retrospect of the whole situation must own that never was an *ignis fatuus* pursued which left more promises broken and greater anticipations unfulfilled than the bacillus theory in so far as it stands related to the therapeutics of this disease." To decry a theory of the origin of a disease because that theory has not benefited the therapeutics of the disease is illogical and an absurdity. For

the same reason the author's asserted neurotic origin may be attacked.

To any one who will unbiassedly read these pages, it will be apparent that the author starts out with such preconceived opinions that he does not fairly consider the data before him; but, indeed, really makes deductions which are directly opposed to the matter he recites. This assumption of the neurotic origin of tuberculosis seems to us to be one of the familiar instances, where, because a certain lesion was found in one case, the argument is that a similar lesion must exist in all cases of the same class. There are no doubt cases of pulmonary tuberculosis primarily of neurotic origin, so, too, are there those primarily of bacillary origin, but to say that consumption is in all cases primarily a neurosis, or, on the other hand, that all are primarily of bacillary origin is absolutely unwarranted.

The author's arguments rest on such unstable ground that it seems apparent he will have few adherents to his beliefs.

ESSENTIALS OF PHYSIOLOGY, ARRANGED IN THE FORM OF QUESTIONS AND ANSWERS. PREPARED ESPECIALLY FOR STUDENTS OF MEDICINE, by H. A. HARE, B. Sc., M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, of Philadelphia, etc. Third edition, thoroughly revised and enlarged by the addition of a series of handsome plate illustrations taken from the celebrated "*Incomes Nervorum Capitis*" of Arnold. Philadelphia; W. B. Saunders, 12 mo., 193 pp., cloth \$1; interleaved for taking notes, \$1.25.

In this edition of this excellent compend we find as the chief change the insertion of a number of plates which the student will find of great benefit in the studies of the deep and superficial origins, the modes of exit, the distribution and the functions of the cranial nerves. The plates are well executed, and the book creditable both to author and publisher.

ESSENTIALS OF ANATOMY AND MANUAL OF PRACTICAL DISSECTION. TOGETHER WITH THE ANATOMY OF THE VISCERA. Prepared especially for students of medicine, by CHARLES B. NANCREDE, M. D., Professor of Surgery and of Clinical Surgery in the University of Michigan, etc. Fourth edition, revised and enlarged by an appendix containing *Hints on Dissection*, by J. Chalmers Da Costa, M. D., Philadelphia; W. B. Saunders. 12 mo., 388 pp. Price, in cloth, \$2; sheep, \$2.50.

This edition presents evidences of decided and gratifying changes. The former editions have been very popular, and in the present issue an effort has been made to extend the usefulness of the work by the addition of a

series of 30 excellent full-page lithographic plates, in colors, taken from the works of Macleise, Savage, Nuhn and Hirschfeld. Besides these there are 188 fine wood cuts. The student will find this a very handy and trustworthy work in the dissecting room.

PERISCOPE.

THERAPEUTICS.

SOMNAL.

1. Somnal induces sleep through a direct action on the brain.
2. The sleep is preceded by disturbances in co-ordination of movements, which is dependent upon the drug's action on the central nerve system.
3. Somnal diminishes the irritability both of the psychomotor centres and the spinal cord.
4. It lowers reflexes, acting directly on the spinal reflex centres.
5. When applied locally, it depresses the excitability of the peripheral endings of sensory nerves.
6. It does not seem to exercise any influence on the peripheral terminations of motor nerves.
7. It lowers the blood-tension, the fall resulting from the drug acting both on the vasomotor centres and the vascular walls themselves.
8. It manifests an inhibitory influence on the central, but increases the irritability of the peripheral endings of the vagus.
9. It decreases the excitability of the respiratory centres.
10. It lowers the bodily temperature.
11. When administered in toxic doses, the drug kills the animal through inducing asphyxia.
12. On the whole, with regard to its physiological effects, somnal stands midway between chloral hydrate and urethan.
13. The action of somnal on the heart is a trifle less depressing, and hypodermic injections of the drug slightly less painful than those of hydrate of chloral.
14. In comparison with urethan, somnal cannot possibly claim even those advantages, since the former *a.* does not manifest any injurious influence on the heart; *b.* does not depress the arterial pressure; *c.* has a more unpleasant taste; *d.* even a 30 per cent. solution of urethan does not cause any pain in hypodermic injections.

15. Whatever somnal might prove—a definite chemical compound, or simply a solution of chloral and urethan in ethylic alcohol—all the same the new hypnotic does not offer any appreciable practical advantages over its components.

16. In view of *a.* the latter circumstance, *b.* the mysteriousness of the chemical composition, and *c.* the fact that the proprietor keeps in darkness and monopolizes the preparation, somnal should be discarded from the list of legitimate therapeutical means.—*St. Louis Med. and Surg. Jour.*

THE ROLLER BANDAGE FOR THE PAINS OF TABES DORSALIS.

Dr. Joseph Leidy publishes a note in the *Medical News* for the purpose of drawing attention to the results of a simple method for the relief of pain during the course of spinal disease, and especially tabes dorsalis.

Warmth, in the form of the warm bath, has long been recognized as of considerable utility in the treatment of this symptom.

He has frequently observed the relief afforded by the firm application of a roller bandage in the spasmodic and painful conditions so common in the extremities following traumatism. It occurred to him that the application of such a bandage (flannel or hose) to the part the seat of pain in locomotor ataxia might be of some service in mitigating the suffering. He found that the firm application of a bandage (flannel) from the toes to the upper third of the thigh was attended with great relief. During the past six months this method of treatment has been employed with most encouraging results. For the girdle pains a bandage, similar to the abdominal binder, firmly applied at the level of the abnormal sensations, afforded almost instant relief. The cases under observation had been treated with galvanism, with absolute rest, and the usual therapeutic measures, the majority of which had failed. The usefulness of this method depends principally upon the pressure and warmth that the bandage affords, combined with rest. It is worthy of further trial, if only as a substitute for morphia. In one case the removal of the chest-binder was in several hours followed by a return of the girdle sensations. Two other patients invariably suffered a return of pain in the lower extremity on the removal of the bandage. In suitable cases the elastic stocking may, with advantage, be substituted for the bandage, as it does not interfere with locomotion.

The application of a roller bandage about the seat of pain was equally useful in several instances in which the area of pain was localized.

The method of treatment indicated will commend itself for its simplicity, with the advantage of acting as a substitute for drugs.

INFLUENCE OF DRUGS ON THE HEART.

Professor German Sée's second paper on this subject was read at the last meeting of the Academy of Medicine. He gave some further notes on the action of sparteine, digitalin, iodide of potassium, caffeine, etc., explaining and adding to what was reported June 13. He likewise examined at length: 1. Strophantine, which is a very strong contracting agent; it only increases the heart's action indirectly and momentarily. 2. Convallamarine is a weak diuretic, producing extreme effects similar to digitalin; convallamarine and sparteine are indispensable auxiliaries and succedaneums to strophantine, iodide of potassium, and digitalin. 3. Lactose is a renal diuretic, without producing the least agitation on the heart and its vessels. The learned professor's ill health necessitated the postponement of the discussion which was to follow this paper.

THE ELIMINATION OF ANTIPYRIN.

The rapidity of elimination of antipyrin has been experimentally worked out by Perret and Givre (*Lyon Médical*, June 7, 1891). The marked tolerance of this drug by young children, and their almost complete exemption from the not infrequent accidents observed after its use by adults, have suggested the idea that elimination of this substance in children is much more rapid than in older patients. The presence of antipyrin in the urine can be detected by the addition of perchloride of iron, which forms a beautiful deep red color. This test is sufficiently delicate to show the presence of one part of the drug in 5,000 parts of urine. The results of this investigation show that (1) the elimination of antipyrin, in all doses, in both children and adults, commences at the same time—about three-quarters to one hour after ingestion; (2) the child eliminates the same dose more rapidly than does the adult, and he, in turn, more rapidly than the old man. Seven and a half grains given to a child continue to appear in the urine for fifteen to twenty

hours, while the same quantity in the adult requires twenty-four to thirty hours for elimination, and a somewhat longer time in an aged person. Larger doses considerably prolong the period of elimination. Sixty grains, in a single dose, administered to an adult, continued to appear in the urine for seventy-two hours.—*Univ. Med. Mag.*

SULFONAL IN AFFECTIONS OF THE NERVOUS SYSTEM.

Dr. Græme M. Hammond, in the *Jour. Nervous Mental Diseases*, writes: Sulfonal is one of the most serviceable drugs in the treatment of nervous diseases which modern chemical research has added to the pharmacopœia. It cannot, in any sense, be considered as a remedy which, by its persistent administration, causes the resolution of pathological conditions. It is a hypnotic, pure and simple. On account of its tastelessness, the refreshing, apparently natural, sleep which follows its administration, and the freedom from unpleasant after-effects, he regards it as a remedy of the highest order. Though he has frequently prescribed sulfonal in large doses nightly, he has never observed any tendency on the part of the patient to form a sulfonal habit.

Of course, being a hypnotic, its use is confined principally to those affections in which insomnia constitutes an important feature. He does not believe that sulfonal ever cures insomnia, except in rare instances. Where wakefulness, moderate in degree and in duration, has been induced by anxiety or worry, and still persists after the exciting cause has been removed, he has sometimes found that fifteen or twenty grains of sulfonal, given every evening for four or five consecutive days, entirely dissipates the insomnia without any other remedial measures being adopted. But it is also serviceable in the preliminary treatment of persistent insomnia. The remedies which relieve insomnia, by the arrest and removal of those morbid conditions which have developed the cerebral hyper-excitability, necessarily act slowly. Under the most favorable conditions, two or three days at least elapse before wakefulness gradually yields to sleep. In such cases a sufficient dose of sulfonal, given for two or three consecutive nights, insures that much-needed sleep which will be continued without the sulfonal when the effect of the remedies aimed at the morbid condition inducing the insomnia becomes manifest.

In certain forms of insanity, in which the constant mental activity frequently induces

nights of wakefulness, sulfonal can be used with benefit. It is far preferable to narcotics, as it secures the desired rest without any apparent pernicious after-effect.

The dose of sulfonal varies greatly for different individuals, depending principally upon the degree of insomnia and the condition of mental excitability. In mild cases, fifteen or twenty grains will be enough, but he has seen several cases in which fifty or sixty grains at a dose were required before even a moderate amount of sleep could be obtained. These cases were all sufferers from insomnia depending upon cerebral irritation of undoubted organic origin, such as epilepsy, cerebral tumors, etc.

There are certain individuals who undoubtedly evince a decided intolerance for sulfonal.

In one case, that of a woman, fifty years of age, who was suffering from insomnia coincident with cerebral embolism, the administration of fifteen grains of sulfonal was almost immediately followed by vertigo, stupor and marked delirium, which persisted for several hours. A few days later the same symptoms followed almost immediately after the same quantity of sulfonal was taken. As a usual thing the effects of sulfonal rarely show themselves until three or four hours after the drug is taken. It could not have been the age of the patient which caused the unpleasant symptoms, for he has frequently given doses of fifty or sixty grains to persons of sixty or seventy years of age. One case—a man, sixty-five years of age, who suffered from frequent epileptic attacks—took sixty grains of sulfonal nightly for a month without any unpleasant symptoms whatever. Another patient, after taking twenty grains of sulfonal, complained of similar symptoms to those previously mentioned, besides which the patient felt weak and suffered from vertigo for the following twenty-four hours. These are the only two instances he has met with in which any decided intolerance for the drug has been shown.

To obtain the best effects of sulfonal, it should be given as nearly in solution as possible. Hot water or hot milk are, in my opinion, preferable as vehicles for the solution or suspension of the drug. Sulfonal is readily soluble in alcohol, and it is often recommended, therefore, to give it dissolved in wine or in some other fluid containing alcohol. But alcohol, being a cerebral stimulant, is contraindicated in most cases of insomnia. It may be given dissolved in soup, in tea, or in coffee, and will be tasteless, unless the dis-

solving fluid contains grease, as soups frequently do, when a decidedly bitter taste will at once be remarked.

Sulfonal given in powders has in his experience proved more efficacious and efficient than when administered in the form of compressed tablets. Whether it is that the latter, being more insoluble than the former, pass into the lower portion of the alimentary tract before they become completely absorbed, he does not know; but he has frequently observed that when equal quantities of sulfonal, in tablets and in powders, have been taken by the same individual, that the duration of sleep produced by the powders greatly exceeded that induced by the tablets.

The cases in which sulfonal gives rise to unpleasant symptoms are so infrequent—only two such instances having come under his observation—that we may readily regard it as a safe and valuable hypnotic—not as a remedy which will cure insomnia, but as a temporary means of bringing refreshing sleep to an exhausted or over-excited brain.

INTRAVENOUS INJECTIONS OF SODA IN ANEMIA.

Castellino (*Gaz. d. Ospit.*, No. 20), at the clinic of Maragliano, at Genoa, has studied in cases of anemia the results of intravenous injections of from fourteen to sixteen ounces of a $\frac{1}{2}$ per cent. filtered solution of soda. The injections were well borne, though sometimes followed by slight fever. An hour after the injection the number of red cells and the percentage of hæmoglobin were reduced. This oligemia was transitory and proportional in degree to the quantity of fluid injected. At the end of from ten to twenty hours a decided increase in the number of blood-plaques and in the number and resistance of the red cells had taken place; the red corpuscles were, however, still pale; the hemometer detected little variation. In the course of four or five days the increase in the number of red cells became more conspicuous, the percentage of hæmoglobin remaining stationary. During this period the red corpuscles showed greater resistance to the serum than they did previously. At the end of from thirty to forty days the good effects of the injections had disappeared. In three cases the serum, which before injection had, on spectroscopic examination, contained a considerable quantity of hematin, became clear after injection. In a case of chronic malarial fever of quotidian type, the

injection was followed by a decline of 2° in temperature. Good results attended the injections in a case of intense chloremia and in one of purpura simplex. In both, the number of red corpuscles became doubled, the general condition improved, and there was an increase in body-weight.—*Wiener klinische Wochenschr.*, June 4, 1891.

MEDICINE.

NASAL REFLEXES.

Dr. F. C. Heath, in the *American Lancet*, says that the explanation of these reflexes is not altogether clear and satisfactory. There are several theories. Hack considers that hyperæmia is the essential condition of the nose causing reflexes. John Mackenzie attributes it all to certain sensitive areas—i. e., the respiratory tract of the nose is the area of reflex action. Moure's theory is, that the reflexes arise from mechanical irritation in the nasal chambers. Bosworth adopts Hack's theory, but adds that "hyperæmia generally occurs in a patient of a decidedly neurotic temperament," and this temperament "is a prominent predisposing cause of a nasal reflex." Moldenhauer opposes Hack's theory, claiming that "nasal polypus and polypoid thickening, as well as atrophic rhinitis, are a source of reflex phenomena, in neither of which does hyperæmia exist." Bosworth denies this condition as far as polypi and polypoid thickening are concerned, holding that they are attended with vaso-motor paresis and distension of the vessels of the membrane; he also speaks of the rarity of reflexes in atrophic rhinitis. That they do sometimes occur in this condition, is evidenced by the fact that Fränkel and Schmaltz report facial neuralgia and vertigo in cases of atrophic rhinitis; Finne a case of neuralgia of the fifth nerve; and Gleason certain skin rashes. Ruault thinks they may be due to crust accumulations, but Bosworth attributes the reflex to impaired general nutrition.

This impairment of nutrition also takes place in obstructive lesions, and may account for many of the accompanying neuralgias.

Some of the diseases reported as reflexes are undoubtedly the direct results of nerve pressure or of the extension of inflammation from continuity of tissue. He is now treating a case of conjunctivitis, probable due to plugs retained in the nares too long, but whether the eye trouble is reflex or from extension of inflammation, is uncertain.

From this study of nasal reflexes, he thinks, we may safely draw these conclusions:

1. Nasal lesions often produce serious reflex diseases.

2. An examination of the nares should be made in all cases of obstinate neuralgias of the head and face.

3. An examination of the nares should be made in every case of, asthma, and in all other spasmodic and paralytic nervous affections, before giving them up as hopeless.

4. An examination of the nares should be made in all ocular cases not yielding to ordinary treatment.

5. Proper nasal treatment should be instituted where lesions are found in the nose in connection with any of the neuralgias, spasmodic and paralytic nervous affections, and ocular diseases above reported, in the hope of relieving or curing the same.

INFLUENCE OF ACUTE FEBRILE DISEASE ON THE COURSE OF CHRONIC PHTHISIS.

Dr. A. Chelmouski reports a case (*Deutsche Medicinische Wochenschrift*, No. 14, 1891) from the wards of Professor Stolnikow, of Warsaw, in which an acute attack of erysipelas, occurring in a patient who was suffering from chronic phthisis, gave rise at first to exacerbation of the tuberculous affection, but subsequently to apparent recovery. The patient was a woman, aged 38, who had suffered for a long time from symptoms of chronic disease of apex of the right lung, bacilli being present in the sputum. Added to this there was very extended ulceration and tuberculous infiltration of the mouth and fauces. A sharp attack of erysipelas, presumably acquired from a patient in a neighboring bed, was followed by a decided increase in the symptoms of the pulmonary disease. With the subsidence of the erysipelas a marked improvement took place in the visible tuberculous disease in the mouth. The ulcerated patches became cleaner and smaller, and the points of infiltration gradually subsided and disappeared. Tubercle bacilli were no longer to be found, and by slow degrees the symptoms of the lung mischief passed away, until the patient in about six weeks was able to leave the hospital feeling perfectly well. Several observers have recorded the subsidence of syphilis and lupus after erysipelas, and a few instances of arrest of tubercle have been noted. An attack of typhoid fever may sometimes be followed by recovery from tubercle. An interesting example of this, in the person of a

professional colleague, is recorded. The patient not only lost all his previous tuberculous symptoms, but gained weight in a remarkable manner during the convalescence from the fever, the cough being reduced to a minimum. Without offering any special explanation of this striking improvement in the onward course of the tuberculous disease, the writer quotes the opinion of Gamaleia, von Fodor, and others, to prove that high temperature should not be regarded as a harmful thing in itself, but rather as an evidence of the destructive process that is going on in the blood to bring about the annihilation of the tuberculous virus. Presuming that a febrile state of blood is inimical to the spread of the tuberculous poison, the occurrence of an excessive febrile condition such as is produced during the course of erysipelas or typhoid might account for the cessation of the tuberculous process, and its rapid cure after the subsidence of the fever. In cases of long-standing disease, where the heart's action is enfeebled or its muscular structure degenerated, the result of the secondary fever may have no such salutary effect, but may simply increase the local disease and diminish the general recuperative power.—*Brit. Med. Jour.*

THE IMMEDIATE REPAIR OF LACERATIONS OF THE CERVIX UTERI.

After a study of this subject (*N. Y. Med. Jour.*) the conclusions reached by Dr. Barrows are that, under certain conditions, lacerations of the cervix uteri are unavoidable, that where they occur to any extent they should be repaired at once, and that this can be done easily without risk to the patient and with every prospect for a successful result. The objects aimed at by this procedure are—

1. To prevent hæmorrhage from the torn surfaces, but more particularly from the cavity of the uterus, by insuring complete and permanent contraction of the organ.
2. To prevent puerperal pelvic cellulitis, endometritis, metritis, salpingitis, oophoritis, and peritonitis, and their complications and sequelæ.
3. To restore the cervix to its normal condition and prevent the development of the conditions dependent on the formation of cicatricial tissue at the site of the laceration.
4. To promote involution and prevent the evils dependent on subinvolution.
5. To remove at once a common source of septic infection.

NEW METHOD OF EXAMINATION OF THE DIGESTIVE ORGANS.

Dr. Sahli, of Berne, has adopted the following ingenious procedure for determining the condition of the digestive functions. A pill containing about three grains of iodide of potassium is enclosed in a round sheet of very thin gutta-percha paper, the free margins of which are twisted in form of a bag and then fastened by a firm moist cord of fibrine, about one-eighth inch thick. The ends of the cord are brought together by a thread. The rubber sheet should be well covered with talcum, so as to prevent adhesion of the opposed surface. To protect the bag during swallowing, it is enclosed in a gelatine capsule. The author's object was to determine the time required for the iodide of potassium reaction to manifest itself in the saliva under various physiological and pathological conditions, this depending upon the rapidity with which the fibrine cord was digested and the iodide set free from its envelope. It has been stated that the manifestation of the iodide of potassium reaction depended upon the quantity of free hydrochloric acid in the stomach, but Sahli's experiments tend to show that the quantity of contained acid exerts less influence than has been thought. Although in the majority of cases examined, patients whose stomachs contained free HCl presented the iodide reaction in the saliva much more promptly than those having a deficiency of the acid, he met with several cases in which time of appearance of the reaction was about the same, independent of the presence or absence of acid. The administration of hydrochloric acid with pepsin in cases of deficient acid production had frequently little or no effect in hastening the manifestation of the reaction. In like manner the administration of soda and pancreatic ferments in these cases, for the purpose of initiating intestinal digestion in the stomach, had no effect in accelerating the appearance of the reaction, and sometimes even delayed it. The reason of this was found to be that the acid and pepsin, or the pancreatic ferments, remained for too short a time in the stomach to exert any digestive action, being partly absorbed and partly passed into the intestines.

The value of this method in demonstrating the condition of the digestive functions is shown by some experiments made by Dr. Henne regarding the influence of pepper on stomach digestion. He found by chemical examination of the gastric juice that pepper administered in doses of 2½ grammes before

meals had no essential effect upon the gastric functions, but that the iodide reaction appeared earlier if no pepper was given. Owing to the laxative effects of pepper, as demonstrated by these experiments, it is probable that it exerts a favorable influence upon intestinal digestion.—*Correspondenz-Blatt. f. Schweizer Aerzte*, No. 3. 1891.

SIPHON DRAINAGE IN TUBERCULOUS EMPYEMA.

A paper and an illustrative case on the subject of rapid and successful healing of tuberculous empyema were brought forward by Dr. A. Fraenkel at the recent sitting of the Verein für Innere Medicin (*Deutsche med. Wochenschrift*, No. 17, 1891). The patient, a young man, aged 23, suffered from phthisis of the right apex, with slight signs at the left also. Effusion ensued in the right pleura, the fluid being somewhat blood-stained, and containing tubercle bacilli. No bacilli could at that time be found in the sputum. The pleuritic fluid became purulent, and was removed by Bülow's method (a long india-rubber drainage tube passed through the cannula, after withdrawal of the trocar, the tube being made to act as a siphon, discharging into a vessel filled with antiseptic fluid). After subsidence of the fever, injections of Koch's tuberculin were begun and were well borne. In twenty days the secretion from the pleura ceased, and a few days later, after withdrawal of the tube, the wound was completely healed. The patient gained two stone in weight, and is at present doing well, although tubercle bacilli are now present in the sputum. Comparing the results of this case, and others similar to it, with such experience as that lately published by Professor König (see *Supplement*, March 21st, 1891), Dr. Fraenkel expresses astonishment at the strong evidence in favor of the siphon treatment. He believes that tuberculous empyema will soon come to be regarded from a new standpoint, and that the good results which have recently been obtained by operative treatment in the case of tuberculous peritonitis may, perhaps, be obtained in the similar affection of the pleura when the disease in the lung is not too far advanced. He commends the siphon method in all such cases except where the pus is offensive, and for these he regards free evacuation through a wide opening as the most satisfactory treatment.—*Brit. Med. Jour.*

SURGERY.

MESENTERY CYSTS.

Gazette Hebdomadaire of May 31st, 1891, reports the removal of many cysts of the mesentery by M. Terrillon. It is generally very difficult to differentiate between these and cysts of the pancreas; but patients having cysts of the mesentery do not generally suffer from renal disturbance; they are not emaciated, as those who have cysts of the pancreas. Having divided the epiploon, he emptied the cyst by puncture and aspiration, and then tried to remove the tumor, but without success. He has always found it necessary to fasten by suture the sides of the cyst to the abdominal walls and to have recourse to drainage in order to effect a cure.

Three cysts removed by Dr. Terrillon contained a lemon-colored fluid and their cavities were without epithelium.

More frequently the liquid found in cysts of the mesentery is of an undefined color, opalescent, and contains fat, but sometimes the liquid is yellow.

Jules Bœckel, in a work which he has recently published on cysts of the pancreas, gives, as a differential sign between them and those of the mesentery, the almost constant presence of an opaline, viscid liquid containing much fat.

The liquid in the cysts operated on by M. Terrillon seemed to be entirely serous. In these cases the large intestine was found to lie over the cyst so that direct puncture was contraindicated. M. Terrillon did not puncture until he had opened the abdomen in the median line.

These cysts are almost always extensively adherent to the surrounding parts, and, as a general rule, as in cysts of the pancreas, it is not possible to extirpate them entirely. After having opened them and fixed the sack with suture to the abdominal walls, it is necessary to await the gradual absorption of the abdominal cyst.—*Sanitarian*.

SURGICAL TREATMENT OF TYPHLITIS.

Dr. M. Koerte, in an abstract in the *Medical Age*, says that surgical intervention is indicated in cases of peri-typhlitis. When we have an acute, diffuse peritonitis consecutive to a perforation. In cases of acute peritoneal abscess. When there is a retro-peritoneal abscess. In case of relapsing suppurative peri-typhlitis.

1. Mikuliez was the first to show that the

intervention of the surgeon may sometimes save patients affected with diffuse suppurative peritonitis consecutive to a perforation. I have three times operated on cases of this sort. One of the patients on whom I operated in *extremis*, succumbed. The autopsy showed a cure might have been obtained if there had not been a third abscess which could not be evacuated, seated between the stomach and diaphragm; this was the direct cause of death. Of the two other patients, one recovered with only a superficial wound remaining; the second, a young man of 18 years, is in the process of recovery.

In operating, I advise not to make antiseptic lavage of the abdominal cavity; it is better to mop out the abscess with dry tampons. I do not take a great deal of pains to find the appendix vermiformis to excise it, for it will not do greatly to prolong the operation, the patient being always very much exhausted; but if the appendix can be readily found, it is well to cut it off, after having ligated it at the base with catgut.

2. Encapsulated abscesses should be incised as soon as possible, if we would not have life compromised by perforation; there is always danger of fatal pyæmia, as happened to three of my patients who did not have surgical treatment. It is the rise of temperature on which we depend for knowledge as to whether the peri-typhlitic effusion be prevalent or not. We can have recourse to exploratory puncture with a hypodermatic needle to ascertain if we have to do with pus. I have operated on five abscesses of this kind. Four of the patients rapidly got well; the fifth has still a stercoral fistula; perhaps we have to do in this case with a tuberculous disease. I do not in operating adopt the method of two stages advised by Sonnenburg.

3. The perforation of paratyphlo-enteric abscesses is a relatively rare event, but these abscesses often occasion a phlegmon; the pus penetrates to the sub-diaphragmatic space, and may pass from thence, by perforation of the diaphragm, into the pleural cavity.

I have operated on five cases of this sort; and all got well. Many authorities say we ought to make an early diagnosis of these abscesses; the exploratory puncture with the Pravaz syringe will much facilitate diagnosis.

4. The well-known symptoms of perityphlitic relapse are often explained by the retention of pus, and this of itself gives a reason why surgical intervention is desirable. I have operated twice in cases of this kind. In one of the patients, the appendix was twisted around the colon and adhered

firmly to it; it was full of pus. I carefully detached the appendix, tied, and cut it off, then sewed the stump into the wall of the colon. The sequelæ were very simple, and recovery rapidly ensued. In the second case after making a herniotomy I found the appendix in the hernial sac, and excised it after ligation. Eight days afterward the patient was well. The appendix contained foetid pus.

There is no doubt as to the necessity of operating in these cases. I do not advise following the practice of certain American physicians, who resort to the operation as a prophylactic during the first twenty-four hours after making the diagnosis of appendicitis; in fact, the great majority of cases of perityphlitis get well by internal treatment.

GYNÆCOLOGY.

THE PEDICLE IN EXTRAPERITONEAL HYSTERECTOMY.

M. Doléris (*Revue Obstét. et Gynéc.*, May, 1891) prefers the extraperitoneal operation in cases of fibroid tumors of the uterus. The chief objection to this procedure is the presence of a wide stump in the lower angle of the wound, which involves painful traction, free suppuration, and prolonged sloughing. He therefore modifies the operation in order to neutralize these evil results. The pedicle is trimmed away inside until it is reduced to a mere membranous collar, which can descend behind the wound just enough to avoid severe traction. This collar is then cauterized with a red hot iron till it becomes like a thick piece of parchment. Its edges are then united by silk sutures, like the stopper of a champagne bottle. Reduced to the size and hardness of a small chestnut, it cannot tear itself away from the pins. At the end of a week or ten days the pins are withdrawn and the pedicle is allowed to retract after its sutured extremity has been trimmed away. On the twelfth day the elastic ligature deep in the wound is cut away; this is not difficult if a thread of silk has been fixed to it, to allow of its being drawn up. Lastly, the sloughy fragments are left to come away; they are never abundant. Two or three deep sutures may be passed through the lower angle of the wound, leaving a small gap for drainage. Granulation proceeds with rapidity, and is complete within a month. From the tenth day the wound no longer appears as though extraperitoneal ovariectomy had been per-

formed, but looks more like the abdominal incision after ovariectomy, with a small opening at the inferior angle. As the cauterized stump is very dry, but a small amount of antiseptic powder need be used. M. Doléris has operated on nine cases after this manner, with good results.—*Brit. Med. Jour.*

OPERATION FOR VESICO-CERVICAL FISTULA THROUGH THE BLADDER.

In order to operate successfully upon a vesical fistula it is absolutely necessary to have a clear view of the field of operation. This is often extremely difficult in cases of vesico-uterine and vesico-cervical fistula, and in those cases of vesico-vaginal fistula in which there are cicatricial adhesions which prevent their being drawn down. Trendelenburg proposed a method of operating (*Volkmann's Sammlung klinischer Vorträge*, No. 355) which overcomes this difficulty, namely, performing a suprapubic operation, opening the bladder to freshen the edges, and to sew up the fistula, and then to close the bladder again, leaving an opening for drainage; the opening in the abdomen to be sewed up in part, and the prevesical space to be tamponed with iodoform gauze. Trendelenburg reports three cases operated upon in this manner. The first two were unsuccessful, and colpocleisis had to be performed later on. The third case made an excellent recovery.

Baum (*Arch. Gynakologie*) reports a case of vesico-cervical fistula in which he operated first per vaginam, the fistula only healing in part. He then determined to operate according to the Trendelenburg method. The operation was only partly successful, as he was compelled to operate per vaginam again, and even then a fistulous opening remained in the abdominal wound. He then discusses the method, laying special emphasis on the following points: The technique of the operation is a simple one. It is absolutely necessary for the pelvis to be elevated, for only in this way it is possible to obtain a clear view of the field of operation. This is also facilitated if the bladder is pushed up from the vaginal side. The peritoneum is not injured, as the position of the patient causes it to fall up toward the diaphragm. In the case operated upon it lay three to four finger's breadth above the symphysis pubis. The amount of hæmorrhage is slight. It is essential to tie the sutures on the vaginal side, this being done by using two needles, one on each end of the thread, and passing them

downward and allowing an assistant to tie them. This is not always easy, but it would scarcely be safe to have the knots in the bladder, lest it might produce a tendency to the formation of stone. It is advisable to use silkworm gut or wire in preference to silk or catgut, as the latter absorb the urine and thus may cause decomposition. A disadvantage in the operation consists in the fact that after its performance it becomes necessary to change the patient's position from one side to the other many times during the first day. This is quite painful. The knees have to be kept drawn up to relax the recti muscles. The urine must not become alkaline after the operation. If it does it becomes necessary to give acids to overcome this tendency.

OBSTETRICS.

THE KYPHOTIC PELVIS.

Among rather primitive people, like those of Hungary, in whom pelvic deformities are not so common as they are, for instance, among the Italians and the Austrians, there is some excuse for ignorance of pelvimetry; for the general practitioner, especially in the country, may not in many years be called upon to estimate the size of a pelvic canal. As civilization becomes more complex, however, developmental anomalies are more frequently seen.

This country, in its astonishing growth and development, has ceased to be an agricultural community, in which the people are well fed and well formed. The urban population has grown at the expense of the rural, and vast numbers of people live and work in conditions incompatible with normal physical growth and well-being. One result of this change in our civilization is seen in the increasing number of deformed pelves among child-bearing women, until at present the proportion of contracted pelves, in the Eastern cities at least, is almost as large as it is in Germany or England. It has become essential, therefore, that even the general practitioner should know the possibilities and limitations of pelvimetry before assuming the responsibilities of the obstetrician. In those parts of the world where pelvimetry is best understood and most assiduously practised, it is recognized that the exact measurement of a given pelvis is often difficult, especially if there is lateral or oblique contraction. The antero-posterior diameter, fortunately, is easily estimated with a won-

derful degree of accuracy if one takes into account the height of the symphysis and its angle with the conjugate. It is this measurement which is most frequently required, for the flat pelvis of various kinds constitutes the overwhelming majority of deformities which complicate labor. A practitioner of much experience, however, will surely encounter at some time a kyphotic pelvis with lateral contraction, if not oblique deformity as well. In such a case it is necessary, before labor, to estimate the degree of resistance which the fœtus will encounter during its expulsion. This is not always easy. Any one with a slight knowledge of pelvimetry can take the distance between the tuberosities of the ischia and so learn the transverse diameter of the outlet, which is usually the seat of greatest contraction; but this measurement does not always tell the whole story.

If there is scoliosis as well as kyphosis, the diameters of the inlet may be diminished more than appears by external measurements, and to a greater extent than can easily be estimated by an internal examination. There is also a possibility of exaggerated compensatory lordosis in the lumbar vertebra, which may be a more serious obstruction to labor than the pelvic deformity itself. We have seen a case, for example, in which this condition necessitated Cæsarean section. The fetal spine was bent at a right angle, from the fact that the projecting spine of the mother was firmly wedged in the child's abdomen, between the thorax and pelvis. It should be remembered, on the other hand, that, as a rule, labor in a kyphotic pelvis, if the deformity is not excessive, is easier than one would expect from the appearance of the woman and the size of the pelvis.

At the worst it is usually a simple matter, without much danger to the mother, to do craniotomy at the inferior strait. The late Dr. Taylor, of New York, delivered successfully in this way a woman whose transverse diameter at the outlet was less than two inches. If, however, there is marked scoliosis with oblique deformity of the inlet—if the whole pelvic canal is much narrowed laterally; if the outlet is so contracted that a living child cannot pass—it would be better, in view of the improved prognosis of the operation, to do a Sænger-Cæsarean section, if the consent of the family and patient can be secured. Unfortunately, the indication in these cases is usually relative and not absolute, so that the physician is bound to offer the choice between craniotomy and Cæsarean section, and, alas for human

nature, the husband and wife will almost always demand the former if the case is put to them truthfully.—*Univ. Med. Mag.*

PÆDIATRICS.

CHEMICAL STUDY OF THE ETIOLOGY OF SUMMER DIARRHŒA IN CHILDREN.

The investigations of Vargas (*Anales de Obst., Gin., y Ped.*) are in accord with those which have been made by Booker and Escherich. He deduces the following conclusions, which condense the most acceptable and modern doctrine upon this intricate problem of the etiology of gastro-intestinal disorders in children.

1. In the intestines of children who suffer with summer diarrhœa numerous microbes have been found. There are three species of them which are capable of producing chemical poisons, which, when injected into animals, cause gastro-intestinal disorders identical with those experienced by children with summer diarrhœa.

2. The greater number of these germs are probably saprophytic. A microbe which lives in the intestine does not necessarily obtain its nourishment from living tissue. The alimentary substances in the duodenum before being absorbed have no more vitality than the fluids in culture-tubes. The same is true of the juices secreted by the intestine. A microbe which lives in a culture-fluid and develops a poison will also grow in the intestine and develop the same poison if it is not destroyed by the secretions of the body.

3. The only digestive secretion which has been demonstrated to be endowed with a germicide action is the gastric juice. There is no doubt that the acid gastric juice has a germicide action upon many micro-organisms. The author has demonstrated that a two-tenths-per-cent. solution of hydrochloric acid will destroy Eberth's bacillus in half an hour, and two other bacilli obtained from drinking water which were believed to have caused certain cases of typhoid fever. The principal reason why a child nourished at the breast stands a better chance of living than one who is fed from a bottle is that the first receives nourishment which is quite free from germs. In order to acidulate cow's milk the addition of hydrochloric acid is necessary. The gastric juice is the physiological safe-guard against microbial infection of the intestines. If one may speculate upon this matter, it is deemed credible that some of the secretions which are poured into the

intestines have germicidal properties, or that the cells, having absorbed poisonous albuminates, neutralize their effect in some unknown way, or that the liver, when in a state of functional activity, prevents these toxic elements from entering the circulation until they have undergone some kind of transformation.

4. Every germ which is capable of producing and developing an absorbable poison in the intestine is pathogenic. In order to demonstrate the pathogenic character of a microbe it is not sufficient that it be capable of causing disease and death when injected under the skin and into the blood, for the blood is a medium which is entirely distinct from the intestinal secretion in its action upon microbes, and it has been positively demonstrated that the blood holds germicidal properties.

5. The three microbes which have been described by the author differ enough from each other to be regarded as distinct species, and produce distinct poisons. Each of them will cause vomiting and diarrhoea, and will produce a fatal result if used in sufficient quantity.—*Archives Pediatrics*.

HYGIENE.

LEPRA AT HANOI (TONQUIN).

Boinet (*Revue de Médecine, Medical Chronicle*, 1890) finds that the disease exists along the watercourses, and that mud is a probable carrier of infection to the naked feet of the poor, the earth being impregnated by the sputa, crusts, and discharges from the lepers. The soil of the cemetery of Hanoi was found to be highly charged, with the bacilli, the mode of burial being extremely careless. Native physicians scarcely acknowledge heredity. In the eighty cases examined, absence of heredity was found in sixty-one. The chiefs of the villages, forty years resident, deny having seen any case directly transmitted; nor are they themselves afflicted. Healthy young girls marry lepers and fail to contract the disease. A case is given in which grandfather and grandmother are lepers, while the father and five children, who have constantly lived in the community, have escaped. The eighty cases establish the possibility of direct contagion in fifty-one. Children of lepers removed soon after birth to an unaffected district remain free from the disease, while their brothers and sisters living in the leper community contract it. Such children, returning in

adult life to the community from which they sprang presently develop symptoms. The theory of the infection by means of the mosquito is regarded as being by no means impossible. The bacillus can find entrance into the mosquito, and has been found in human blood.—*Amer. Jour. Med. Sci.*

THE ADULTERATION OF ALCOHOLIC BEVERAGES.

The Third Biennial Report of the Dairy Commissioners of Minnesota contains the following remarks, which are of importance to physicians: That there are extensive adulterations and sophistications of wines practised in the United States, no one will question. It must not be assumed, however, that all wines upon the American market are necessarily of this character, since there is not a particle of evidence to support such a claim. There are sections of this country that produce wines of excellent quality, and there is no evidence on record to show that these native wines are adulterated or sophisticated during their manufacture or before their sale. Chemical analysis of samples of California wines show them to agree closely to the accepted standards, and give no evidence of being other than pure and of good quality.

In the examination of beers, it was found that the principal sophistication consisted in the use of cheaper substitute for malt, either in the form of other grain: unmalted barley mixed with the malt, rice flour or glucose. The principal effect of these is the production of a beer which is poorer in albuminoids and phosphates, and is, consequently, less nutritious than it should be.

As substitutes for hop bitters, the report mentions picrotoxin and picric acid, but regards their use as rare.

Of preservatives, salicylic acid seemed to be the most popular, as nearly one-fourth of the samples examined contained it. No case of direct adulteration was discovered, all variations from the normal article being some fault of curing or clearing, and the above-mentioned substitutes in the manufacture.

The report deals harshly with foreign brandy. Most of the brandy imported to this country from France is of inferior quality, frequently by reason of absolute sophistication. The term "brandy" seems to be no longer applied to a spirit produced by fermentation of grapes, but to a complex mixture of alcohol derived from grain,

potato or beet-root refuse. Potato and beet-root spirit is shipped into France from Germany and the United States. These are the most objectionable of all spirits, and hence brandy made from them is objectionable. They are flavored and colored, branded and labeled, and shipped to America in large quantities. Physicians frequently order brandy, while when they do so they can confidently expect that one of these mixtures will be supplied to the patient.

The report calls attention to the fact, further, that not one of the samples examined by the Dairy Commissioners of New Jersey in 1888 came up to the pharmacopoeial standard. Most of the native brandies are genuine, although they have not been aged enough to make them bland and palatable, and many of them contain fusel oil.

The most of the samples of whiskey examined were deficient in alcoholic strength, and contained too much solid matter in the form of burnt sugar, glycerine, etc. Two out of fifteen samples examined were not whiskey, but artificial mixtures. Those that were genuine were not properly mellowed by age, and were, therefore, harsh, irritating, and consequently disturb the digestion of drinkers, and make them unfit for medicinal use.

MEDICAL CHEMISTRY.

PERMANGANATE OF POTASSIUM AS A URINARY TEST.

At the meeting of the Hunterian Society, held February 25, 1891, Mr. F. R. Humphries read a paper on the reduction of permanganate of potassium by the urine, in which he stated (*British Medical Journal*, March 14, 1891) that, after testing the known organic and inorganic constituents normally present, he came to the conclusion that a phenol was the only one which could produce this effect. The phenol might be present in such form as to admit of ready oxidation. Baumann had proved that phenol, besides being made in the intestine, was also formed during the decomposition of albumen. The reducing body corresponded to its diurnal variations with urea and the uncombined sulphates; it was, therefore, certain that it was, like them, a product of the metabolism of the tissues. If the reducing body was a phenol compound, it ought, when retained, to produce cerebral and nerve effects. It was remarkable that

the forms, degrees, and symptoms of carbolic acid poisoning bore the very closest resemblance to those of uræmia, and that several of the most useful drugs in the latter condition were antidotes in the former. It was found that when the excretion of the reducing body was much diminished or increased, symptoms of uræmia were generally present. One cubic centimetre of a five per cent. solution of permanganate was diluted with 4 or 5 parts of water in a test-tube, and the urine rapidly run in from a pipette marked in cubic centimetres. The normal amount of the reducing body excreted in the twenty-four hours was found to be from seventeen to thirty-four grains, reckoned as permanganate, being highest in the first urine of the morning, in that passed four or five hours after a meal, and in fine warm weather. It was much increased in all febrile cases, except when marked cerebral symptoms were present; much diminished during a sick headache, but increased rapidly as it passed off. The author claimed to have discovered the presence of a powerful reducing body in the urine, whose daily history showed it to be a product of the metabolism of the tissues, whose reactions corresponded to a certain extent with those of a phenol, and whose suppression or excess corresponded closely with febrile cerebral symptoms, and with those of uræmia.

Dr. W. Hunter said the views of Proust and Thudichum on urine pigments were foremost down to 1870; since then Jaffé had opened a new era. The coloring-matter was no longer looked on as an independent body, but as a variety of pigments whose genetic relation to those of the bile and blood was established. Bilirubin was, without doubt, of the same nature as hæmatoidin; the relation was illustrated in old blood extravasations where blood was found in the centre; then an area of hæmatoidin crystals, and outside the green color of biliverdin. The modifications of urobilin found in urine (MacMunn) were almost precisely the same as those found in the bile. Urinary pigments were extremely unstable, and readily passed from one body to another when exposed to the air to a few drops of acid. He viewed, then, with suspicion the results of such heroic methods as the use of phosphomolybdic acid, and relied more on the spectroscope and simple extraction with ether, etc. These methods led to the belief that all the pigment was derived from the blood, and was hence an index of the changes in the body.

Dr. Lewis Jones had found a red body in febrile urine, giving a band at F, the junc-

tion of green and blue; this was urobilin, the uropittin, he supposed, of Dr. Thudichum. The color of normal urine was due to a yellow body, which gave no characteristic spectrum, and was unknown.—*Ther. Gaz.*

NEWS AND MISCELLANY.

DOCTOR AND PREACHER.

Parson and doctor joined in one
Most suitably we find;
The one the suffering body treats,
The other soothes the mind.
The parson shows the way to heaven;
And then, with tender care,
The doctor consummates the work,
And gets the patient there.

—*Medical Age.*

MEDICAL DIPLOMAS CONFERRED AND REFUSED IN 1889-1890 IN FRANCE AND GERMANY.

In the German Empire (45,000,000 inhabitants) the German Universities conferred in 1889 and 1890, 1,125 diplomas of doctors of medicine, distributed as follows: Berlin, 163; Bonn, 110; Breslau, 42; Erlangen, 69; Freiburg, 44; Giessen, 12; Goettingen, 25; Griefswald, 80; Halle, 36; Heidelberg, 22; Jena, 42; Kiel, 48; Königsburg, 26; Leipzig, 2; Marburg, 23; Munich, 114; Rostock, 6; Strassburg, 63; Tübingen, 22; Würzburg, 166. The number of doctors rejected in 1888-89 was 1,030; in 1887-8, 935; in 1886-87, 847; in 1885-86, 685.

In France (38,000,000 inhabitants not reckoning the colonies) the number of doctors rejected in 1889-90 by the six French faculties was 597, a decrease of 28 on the year preceding. Bordeaux rejected 60; Lille, 16; Lyons, 63; Montpellier, 46; Nancy, 26; Paris, 386.

FROM THE DIARY OF A NURSING.

A Dr. Guster gave a German newspaper the brief but pathetic journal of a baby who, after thirteen days in this world, departed, leaving these reflections for our instruction:

First Day—Wonderful, heavenly! At last I am in this beautiful world! who would have thought it, that one could breathe, freely breathe, and cry out what one thinks? I rejoice particularly in the sunlight and blue sky, in the fresh, pure air with its coolness. If I could only see and feel all this splendor!

Second Day—O, this horrible heat! I have been deceived. This air, this water, this light; how entirely different have I imagined it would be. But patience, all will come right by and by. The old woman who cares for me does not seem to understand me.

Fifth Day—Still no solution! If it goes on this way I cannot hold out long. The whole livelong day must I lie buried in feather cushions so that I can scarcely gasp down a bit of air. Two linen and one flannel binders, a little shirt, a flannel slip, a long cushion filled with feathers in which I am wrapped from head to foot, over this a coverlet filled with feathers, the curtains of my crib drawn to, the room darkened with double curtains, the windows closed, so must I, poor worm lie from morning till evening. My burning skin is worse off than the hot stove near me, which can at least, as I feel, give off its heat. O, that I did know what I shall do! If I cry it brings the old woman with her milk, which increases my misery; if my hands are cold while my brain and skin are burning she brings a few more wraps. I turn my half closed eyes from side to side seeking help, and my tormentor says "the baby shivers," and really heats the horrible things at the stove. Will no one come to my relief?

Tenth Day.—Again a fearful night! I cry but I am not understood. I must drink, drink, and again drink, until the stomach overflows. A half hour later they give me something with a horrible taste from a teaspoon. Air, air, pure, cool air, light, water! Shall I then have no help from this world?

Twelfth Day.—Yesterday there was a great council of my aunts and cousins. Each one advised a different remedy for my sickness, but all agreed that its cause is a cold. Warmth was urgently recommended, and I received a new kind of infant food just discovered, and some strengthening wine which heated my brain yet a little more, so that I was deathly still. My body is wrapped so tightly with the roller that my stomach overflows every time a teaspoonful of anything is given. My feet are forcibly extended and enveloped, so I cannot bring them up to relieve the pain, but my feeling is gradually going. Would that all were soon over.

Thirteenth Day.—Farewell thou beautiful world! Thy light and thine air have been denied me, but thither, where I go, there are no fetters.—*Schweiz Blätter für Gesundheitspflege*.—Sanitary Inspector.